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Social Stratification Across Three Generations: New Evidence From the Wisconsin Longitudinal Study

John Robert Warren

Robert M. Hauser

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John Robert Warren

Robert M. Hauser

Department of Sociology
University of Wisconsin-Madison

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Correspondence should be directed to John Robert Warren, Department of Sociology, University of Wisconsin-Madison, 1180 Observatory Drive, Madison, Wisconsin 53706. E-mail: WARREN@SSC.WISC.EDU

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ABSTRACT

Research on intergenerational social and economic mobility is almost always limited to mobility across two generations. While two-generation studies provide important insights into the ways in which social and economic advantages and disadvantages are passed from one generation to the next, much less attention focuses on stratification over three or more generations. In our analyses, we ask whether grandparents' schooling, occupational statuses, and incomes have any significant influence on grandchildren's educational and occupational attainments, once parents' characteristics are taken into consideration.

In a regression analysis of several thousand parents who graduated from Wisconsin high schools, we find that grandparents' characteristics have few significant effects on grandchildren's educational attainment or occupational status, once parents' characteristics are held constant. Also, using structural equation models, we find that, even when we consider both sets of grandparents and account for errors in variables, the data are not consistent with the hypothesis that grandparents' schooling, occupational statuses, or incomes directly affect grandchildren's educational attainment or occupational status.

SOCIAL STRATIFICATION ACROSS THREE GENERATIONS: NEW EVIDENCE FROM THE WISCONSIN LONGITUDINAL STUDY

Researchers studying patterns of intergenerational mobility in social and economic outcomes have almost always limited their analyses to mobility across two generations (Rogoff 1953; Glass 1954; Blau and Duncan 1967; Jencks et al 1972; Sewell and Hauser 1975; Featherman and Hauser 1978; Erikson and Goldthorpe 1992; Solon 1992; Zimmerman 1992). Typically, these analyses take one of two approaches. In the "mobility table" approach, the researcher cross-classifies a respondent's status by his or her mother or father's status (Rogoff 1953; Glass 1954; Svalastoga 1959; Lopreato and Hazelrigg 1972; Hout 1988). In the case of research on occupational stratification, the objective of the "mobility table" approach is to draw conclusions about occupational inheritance and mobility on the basis of the distribution of cases across the cells of this cross-classification table. In the "regression" approach, the researcher estimates (in a regression or structural equation framework) the dependence of a respondent's position in a social hierarchy on the characteristics of his or her family of origin and on factors that intervene between origin and outcome variables (Duncan and Hodge 1963; Blau and Duncan 1967; Sewell and Hauser 1975; Featherman and Hauser 1978; Peters 1992).

In either methodological tradition, the substantive focus is on the degree to which a person's social standing is determined by the characteristics of his or her family of origin: Research on intergenerational mobility in social or economic status is designed to assess the extent to which outcomes are ascribed or achieved, inherited or earned.

However, "family of origin" is nearly always specified in terms of the characteristics or statuses of the persons with whom the respondent lived when he or she was growing up. For example, researchers commonly specify "family of origin" as a combination of mother's and father's educational and occupational statuses, parents' earnings, household composition and size, and so forth (Goyder and Curtis, 1977). Thus, studies of intergenerational mobility typically examine mobility across just two generations. Researchers seek to make statements about the extent to which life outcomes depend on "family of origin," broadly construed, but they only observe mobility from one generation to the next.

In this paper, we ask whether our understanding of the process of stratification in social and economic outcomes could be improved by expanding the common notion of "family of origin" to include a third generation of family members. If the consideration of grandparents' characteristics adds little or nothing to our understanding of intergenerational mobility, then we will be satisfied that the traditional two-generation perspective on intergenerational mobility is adequate. If, on the other hand, grandparents' characteristics improve the specification of "family of origin," then we will be inclined to advocate changes in the collection and analysis of data pertaining to intergenerational mobility (Goyder and Curtis, 1977).

Specifically, we ask whether grandparents' characteristics (their educational attainments, occupational statuses, and earnings) have significant and direct effects on grandchildren's outcomes (their educational attainments and occupational statuses), once the characteristics of parents (the intervening generation) are held constant. In other words, using both a standard regression model and a more elaborate structural equation model, we ask whether there are lagged effects of grandparents' statuses on grandchildren's outcomes. Figure 1 shows our conceptualization of the process of stratification across three generations. In the diagram, we hypothesize that a child's outcomes are determined in part by the characteristics of his or her family of origin and in part by other factors (which are represented as a disturbance). Likewise, we hypothesize that each parent's outcomes (which are seen as the child's origin statuses) are determined in part by the characteristics of their respective families of origin and by another stochastic disturbance. The major focus of our analysis is on the nature and magnitude of the paths in Figure 1 which lead directly from each parents' family of origin to the child's outcomes.

A Short History of Three Generation Models

We are not the first to ask whether grandparents' characteristics affect grandchildren's life chances. Indeed, many of the early intergenerational mobility monographs contain a sub-chapter or paragraph on the subject. Ordinarily, these early three generation analyses use the "mobility table" approach, studying intergenerational mobility by cross-classifying individuals' statuses in a mobility table. For example, in the 1949 study of social mobility in Britain, led by D.V. Glass, individuals were asked about their own occupation (in the case of men) or their spouse's occupation (in the case of women), and about the occupations of their first-born son and that son's paternal grandfather (Glass 1954; Ridge 1974). In a similar fashion, in Svalastoga's study of mobility in Denmark, in Lopreato and Hazelrigg's study of mobility in Italy, and in the 1947 NORC survey of mobility in the United States, men were asked about their own occupation and about the occupations of their father and their paternal grandfather (NORC 1953; Svalastoga 1959; Lopreato and Hazelrigg 1972)[1]. The research strategy followed in these studies did not produce direct findings about the independent effects of grandfather's occupational statuses on grandchildren's outcomes. Rather, each of these works classified occupational mobility from the grandfather's to the father's generation by occupational mobility from the father's to the son's generation. Each study found that occupational mobility from the grandfather's to the father's generation was *negatively* related to occupational mobility from the father's to the son's generation (Mukherjee 1954; Svalastoga 1959; Allingham 1967; Lopreato and Hazelrigg 1972). That is, each found that in families in which the father's occupational status *improved* relative to the grandfather's status, sons were likely to *decline* in status relative to their fathers, and in families in which the father's occupational status *declined* relative to the grandfather's status, sons were likely to *improve* in status relative to their fathers[2].

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[1] See Broom et al (1977) for a methodological discussion of the differences in results obtained by asking a respondent about two generations of ancestors as opposed to asking a respondent about one generation of ancestors and one generation of descendants.

[2] Lipset and Bendix (1963) suggest that findings of these sort lend support to the German proverb, "three generations from shirt-sleeves to shirt-sleeves," and to the Lancashire maxim, "clogs to clogs in three generations."

The counter-intuitive finding that occupational mobility from the grandfather's to the father's generation is *negatively* related to occupational mobility from the father's to the son's generation would seem to have important implications for the present study. However, Blau and Duncan (1967, pgs. 197-198) warn against the analysis of "mobility variables" in this manner. According to Blau and Duncan (1967), the correlation between two mobility variables when the terminal status in the definition of one mobility variable is also the initial status in the definition of the other mobility variable can be expressed as follows:

$$r_{(y-w)(w-x)} = \frac{r_{yw} - r_{yx} + r_{wx} - 1}{2\sqrt{1-r_{yw}}\sqrt{1-r_{wx}}}, \qquad \textbf{(1)}$$

where "x" represents the initial status in the definition of the first mobility variable, "w" represents the terminal status in the definition of the first mobility variable as well as the initial status in the definition of the second mobility variable, and "y" represents the terminal status in the definition of the second mobility variable. Blau and Duncan (1967) observe that when r_{yw}, r_{yx}, and r_{wx} are "all positive and of a similar order of magnitude, the negative sign for the correlation between mobility variables, $r_{(y-w)(w-x)}$, is a tautological necessity..." They explain this as follows: "The scale interval from x to y...is a distance. If movement from x to w covers most of that interval there is only a short distance left to go from w to y. But if x to w covers only a little of the interval there is a long distance left to go from w to y. For this reason the lengths of the two mobility steps, x to w and w to y, tend to be inversely related." As a result, although the finding that occupational mobility from the first to the second generation is *negatively* related to occupational mobility from the second to the third generation is interesting, it is more of a statistical artifact than a significant substantive discovery[3].

More recently, researchers working from the second methodological approach, which we call the "regression" approach above, have conducted analyses which attempt to estimate the direct effects of grandparents' statuses on grandchildren's outcomes. Some of these analyses have found that grandparents' characteristics make no difference for grandchildren's outcomes. For example, Ridge (1974) concludes in his reanalysis of 713 men in Glass's British data that "there is no direct carry-over of occupational status from the first to the third generation" and that nearly all of the observed correlation between grandfathers' and grandsons' occupational status is due to the facts that grandfathers' occupational status influences fathers' educational attainment and that fathers' educational attainment is a major determinant of sons' education and occupational status. Likewise,

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[3] In the data which we will use for our analyses, the correlation between paternal grandfather's occupational status and father's occupation status (r_{wx}) is .26, the correlation between paternal grandfather's occupational status and son's occupational status (r_{yx}) is .17, and the correlation between father's occupational status and son's occupational status (r_{yw}) is .29. According to equation 1, $r_{(y-w)(w-x)}$ is -.42; that is, despite the fact that the correlations between all three status variables are positive, the correlation between occupational mobility from the grandfather's to the father's generation and occupational mobility from the father's to the son's generation is negative.

Peters (1992) finds that for about 3000 male and female children in the four original National Longitudinal Survey cohorts, "grandfathers' education never has a significant effect on [grand]children's log income or earnings." In this vein, Jencks et al (1972) suggest that there are no lagged effects of grandparents' statuses on grandchildren's outcomes when they write:

> "The correlation between a father's occupational status and his son's status is less than 0.50. If two father's statuses differ by, say, 20 points, their son's statuses will differ by an average of 10 points...If we extend this analysis over several generations, the relationship between a man's status and his ancestor's statuses grows progressively weaker. Thus if two men have statuses that differ by 20 points, their son's statuses will differ by an average of 10 points, their grandsons' statuses will differ by about 5 points, and so forth."

These conclusions may not be surprising in light of the work by Cherlin and Furstenberg (1986), which finds no evidence for the hypotheses that grandparents influence their grandchildren's values about family life or that grandparents exert a direct, independent influence on their grandchildren's attitudes or values.

Becker and Tomes (1986), in their analyses of the "transmission of earnings, assets, and consumption from parents to descendants" argue theoretically that the "earnings of grandparents and grandchildren are indirectly linked through the constraints on financing investments in children." In an oft-quoted passage, Becker and Tomes write that "an increase in the earnings of grandparents lowers the earnings of grandchildren when parents' earnings and grandchildren's luck are held constant." However, as Becker (1981) acknowledges and as Goldberger (1989) points out, the apparent negative effect of grandparents' earnings on grandchildren's earnings in Becker and Tomes' theoretical argument is a statistical artifact. Indeed, Goldberger (1989) warns against being "misled into giving a causal interpretation to the negative coefficient on grandparental income."

On the other hand, other researchers have found that grandparents' characteristics directly influence grandchildren's outcomes. Hodge (1966), in his reanalysis of the 1947 NORC data, finds that "there is greater *status inheritance* across [three] generations than one expects to observe in the event that the actual association between grandfather's and grandson's occupations was entirely due to the relation that each bears to the intervening factor of father's occupation." Similarly, Goyder and Curtis (1977) find "direct links between occupational status scores over three generations" in their sample of 1191 Canadian men, and Kiker and Condon (1980) conclude from their analysis of data for 339 men in the Panel Study of Income Dynamics that "a man's achievements may affect significantly the achievements of his grandchildren." Indeed, Kiker and Condon claim that "the impact that family background has on the life chances of an individual may not dissipate progressively over repeated generations as was previously believed." In an analysis of the impact of maternal grandmothers' characteristics on granddaughter's cognitive achievements, Hill and O'Neill discover that "an increase by one year in the [maternal] grandmother's schooling is associated with nearly a one point increase in the average PPVT [Peabody Picture Vocabulary Test]" after parents' characteristics have been taken into consideration.

In our estimation, these prior analyses of the process of stratification across three generations are limited in three important respects. First, many of the above analyses make use of relatively meager data, generally from small or non-random samples. For example, Kiker and Condon (1980) based their analyses on data for 339 men in the Panel Study of Income Dynamics who had formed their own "split-off" families by 1972 and who were in the labor force in 1974, and Hill and O'Neill used National Longitudinal Survey of Youth data for 1880 women with daughters. Even researchers who have worked with data from larger, nationally representative surveys have been limited by the variables at their disposal. In none of the analyses discussed above did the researchers have access to good measurements of grandparents' earnings, and in most cases the only information available to the researchers concerning the grandparents' characteristics was the paternal grandfather's education and occupation. Second, the analyses discussed above have usually ignored the facts that children have *two* sets of grandparents and that maternal and paternal grandparents may be differently influential for male or female grandchildren. Indeed, only Ridge (1974) estimates a model which includes some of the characteristics of both of a focal child's grandfathers. In no analyses which we have seen have the researchers (1) included information about all four grandparents; (2) described the ways in which paternal and maternal grandparents differ in their effects on grandchildren; or (3) considered that male and female grandchildren may be differentially influenced by grandparents.

Finally, none of the analyses discussed above take into account the potentially serious consequences of measurement error in three generation models. Systematic efforts to incorporate corrections for response variability into models of the stratification process across two generations have yielded important modifications of these models (Bielby, Hauser, and Featherman 1977; Hauser, Tsai, and Sewell 1983). Differing levels of measurement error in the parents' and grandparents' generations could easily account for observations of positive or negative lagged (two-generation) effects, regardless of the true situation. For example, random measurement error in grandparents' characteristics would lead to underestimates of lagged effects while random measurement error in parents' characteristics would lead to overestimates of lagged effects. Thus, a serious effort to specify three generation models of the stratification process should account for effects of measurement error.

The Wisconsin Longitudinal Study

In the present analysis, we use data from the Wisconsin Longitudinal Study (WLS), which are an improvement over the data used in earlier studies of mobility across three generations. The WLS is a long-term study of a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957. Respondents were surveyed in their senior year of high school and interviewed in 1975 and again in 1992/1993. In addition, respondent's parents were surveyed by mail in 1964, and data from school records and Wisconsin state tax files were appended to the WLS data for each respondent. Information from these survey waves provide a full record of the social background, youthful aspirations, schooling, military service, family formation, labor market experiences, and social participation of the graduates.

Members of the WLS sample were asked about the educational attainments of their parents in the 1957 and 1975 surveys, about their father's occupation in the 1975 interview, and about their current spouse's father's educational attainment and occupation in the 1975 survey. Additionally, Wisconsin tax records provide information about each respondent's father's occupation and parents' earnings between 1957 and 1960. Measures of the respondent's education were obtained in the 1964 and 1975 interviews, while measures of the respondent's occupation in 1975 were obtained in both the 1975 and 1992/1993 rounds of the WLS. Measures of the respondent's current spouse's education and occupation were also obtained in 1975. Finally, in the 1975 survey, interviewers collected a roster of children from each respondent. One child was randomly selected at that time, and in 1992/1993 the respondent was asked to report the education and occupation of that child. In sum, the WLS provides a rich set of information about the educational attainments and occupational pursuits of a young adult, his or her parents, and both sets of his or her grandparents.

Two aspects of the WLS data make them particularly useful for analyzing the process of stratification across three generations. First, they provide information about the educational and occupational attainments of three generations of family members, and about the earnings of members of the eldest two generations. Second, as we describe in greater detail below, the WLS data include multiple measurements of most of the variables in our analyses. Consequently, we can incorporate estimates of measurement error in models of the effects of parents' and grandparents' characteristics on grandchildren's educational attainment and occupational status.

Sample Definition

We have initially limited the sample for these analyses to the 4,089 cases in which the WLS respondent (1) was interviewed in each of the 1957, 1975, and 1992 surveys; (2) was married in 1975; and (3) reported the characteristics of a selected child who was at least 25 years of age at the time of the 1992/1993 interview[4]. The first limitation is required in order to include sufficient information about the respondent, his or her parents, and one selected child in the analyses. However, given the high response rates in each wave of the WLS, this limitation is not a problem[5]. The second restriction is required so we can include information about the selected child's "other" (non-sample) side of the family; without it, we would be unable to include information about the selected child's "other" parent and his or her family of origin[6]. The third restriction limits the sample to

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[4] We have also excluded two respondents who were far above the modal age for the WLS cohort.

[5] Of the 10,317 members of the original WLS sample, 9,139 (88.6%) were re-interviewed in 1975 and 8,493 (82.3%) were re-interviewed in 1992/1993.

[6] In this paper, we assume that the respondent's 1975 spouse is the selected child's "other" parent. This is a reasonable assumption, since 87 percent of the respondents to

cases in which the selected child is old enough to have completed formal schooling and to have initiated an occupational career[7]. Throughout our analyses, we distinguish between four subgroups of cases, defined by the cross-classification of the respondent's gender and the selected child's gender. The purpose of this subdivision of the sample is to permit observation of differences in the process of stratification which may exist between male and female parents and male and female children. Because women tended to marry older men in the late 1950s and early 1960s, there is a disproportionate number of female parents drawn from the WLS sample.

Variables

While Figure 1 represents our concept of the process of stratification across three generations, Figure 2 includes more detail about the variables we wish to include in the analysis. For both sets of grandparents, we wish to include two measures each of (1) grandfather's education; (2) grandmother's education; (3) grandfather's occupational status when the mother or father was growing up; and (4) grandparents' earnings when the mother or father was growing up. Likewise, we wish to include two measures each of the selected child's (1) father's education; (2) mother's education; (3) father's occupational

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the 1975 survey were currently married and married to their first and only spouse at the time of that interview.

[7] We limit our analyses to cases in which there are no missing data on key variables. In each model we run, the selected child's occupational status in 1992 is such a key variable. By selecting only cases in which the respondent reported an occupation for their selected child, we are effectively excluding cases in which the selected child has not yet begun his or her occupational career.

status when the selected child was growing up[8]; and (4) father's earnings in 1974[9]. Finally, we can make do with single measures of the selected child's educational attainment and current occupational status[10]. In all, we should like to include 26 measured variables in the analysis.

If we had all of these data, we could simply construct a correlation or covariance matrix that includes these 26 variables and perform our analyses. Unfortunately, we are unable to do so. First, we have only one measure of father's earnings in 1974. Second, there are certain asymmetries in the available data, such that some variables are missing for male respondents and others are missing for female respondents. The problem is that we know a great deal more about the respondent and his or her family of origin than we do about the respondent's spouse and his or her family of origin. Table 1 describes our dilemma in detail. Cross-classifying the 25 remaining variables, the table shows which moments are missing when the respondent is male (indicated by an "M" in the cell), which

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[8] Although the WLS ascertained the 1975 occupation of both male and female respondents in the 1975 and 1992 surveys, we decided not to include mother's occupation because of severe missing data problems. Women were much less likely to be in the labor force in 1975, and by excluding cases with missing data on the mother's occupation variable, we would have greatly reduced the size and coverage of our analysis sample.

[9] For the grandparents' generation, the earnings measure pertains to total family income. For the parents' generation, however, we have chosen to include only father's earnings. Appendix A provides a description of the construction of this variable, as well as a discussion of our reasons for choosing it over other measures of father's, mother's, or parents' earnings.

[10] Assuming random measurement error in grandchildren's statuses, such errors do not affect the lag structure of the effects of parents' or grandparents' characteristics.

are missing when the respondent is female ("F"), and which are missing when the respondent is either or male or female ("M,F"). For example, since we do not measure the paternal grandmother's education when the respondent is female, we do not observe the correlation between X_3 and any other variable for female respondents. The relatively few cells that are outlined represent moments that are directly observed in the data for both male and female respondents; for instance, the correlation between the two grandfathers' educational attainments (labelled X_1 and X_5) is always directly observed. In all, we always observe only 45 of the 300 desired moments for respondents of both sexes.

The reader might be tempted to conclude at this point that our analyses are doomed. How can we estimate a model that includes the characteristics of three generations of family members and that accounts for measurement error when we do not actually observe most of the required correlations?

We employ two strategies. First, in estimating the full model, we drop the second measure of each construct; that is, we drop one measure of paternal grandfather's education, one measure of paternal grandmother's education, and so forth. We do not, on this account, abandon efforts to correct the parameters of the model for measurement error. Instead, we estimate separate measurement submodels (1) for variables pertaining to the father's family of origin; (2) for variables pertaining to the mother's family of origin; and (3) for variables pertaining to the selected child's family of origin. We apply the estimates of error variance from these submodels to the variables which we retain in the full, three generation model[11]. In this way, we greatly reduce data requirements, but we still take account of measurement error in our model.

Our second strategy is to use incomplete data techniques that have been developed by Allison and others (Werts, Rock, and Grandy 1979; Allison 1987; Allison and Hauser 1991) and that can be implemented in recent releases of LISREL (Jöreskog and Sörbom 1989). In effect, these models either test or assume that various elements in the covariance matrices for male respondent are the same as corresponding elements in the covariance matrices for female respondents, but that some data are missing for one sex or the other completely at random. Consequently, models can be estimated as if all variables were observed both among men and women, even though some moments are missing in one or the other matrix.

Table 2 describes the measured variables in our analyses. Panel A, which includes variables X_1 through X_8, describes the variables that pertain to the father's family of origin. Panel B, which includes variables X_9 through X_{16}, describes the variables that pertain to the mother's family of origin; Panel C, which includes variables Y_1 through Y_7, describes the variables that pertain to the select child's family of origin; finally, Panel D, which includes variables Y_8 through Y_9, describes the variables that pertain to the selected's child's education and occupational status.

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[11] Bielby, Hauser, and Featherman (1977) used a similar strategy in a two generation context.

Each of the variables representing a grandparent's education is expressed as years of school completed and is top-coded at 20 years. For male respondents, we have complete information (that is, all four measures) of paternal grandparents' educations, but only one measure of maternal grandfather's education and no measures of maternal grandmother's education. The situation is exactly reversed for female respondents. Regardless of the gender of the respondent, grandparents tend to have completed about 10 or 11 years of school, and grandfathers completed slightly fewer years of school than grandmothers.

Paternal and maternal grandfathers' occupational statuses when the father or mother was growing up are expressed on the Duncan SEI (Duncan 1961) or in the update of the SEI for the 1970 Census occupational classification system (Featherman, Sobel, and Dickens 1975). Again, we have two measures of paternal grandfather's occupational status and one measure of maternal grandfather's occupational status when the respondent is male, but one measure of paternal grandfather's occupational status and two measures of maternal grandfather's occupational status when the respondent is female. When both measures are present, the 1975 measure of grandfather's occupational status tends to be a few points higher than the measure obtained from tax records.

Both measures of grandparents' income are derived from Wisconsin state tax records. The first is the average of parents' income in three of the four years between 1957 and 1960; the second is parents' income in the single year which was excluded from the first measure. The single year selected for the second measure (and excluded from the first) is almost always 1957. Both measures are top-coded at $50,000 and then expressed as the natural log of $500 plus the dollar value of the variable[12]; zero is defined as a missing value for both measures. For male respondents, we do not have measures of maternal grandparents' income, and for female respondents, we do not have measures of paternal grandparents' income.

Panel C describes the variables that pertain to the selected child's family of origin. Measures of parents' education are expressed as years of school completed, and are top-coded at 20 years[13]. We have measures of both parents' years of schooling from the 1975 survey, and an additional measure of the respondent's education from the 1964 survey. Thus, we have only one measure of mother's education when the respondent is male, and only one measure of father's education when the respondent is female.

The measures of father's occupational status are expressed on the Duncan SEI as updated to the 1970 Census classification system. The first measure pertains to the father's current occupation at the time of his or his wife's 1975 interview. The second measure was obtained in 1992/1993, and pertains to men's current or last jobs as of the

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[12] Here and elsewhere we add $500 to the observed value and take the natural log in order to reduce skew in the distribution of earnings.

[13] By definition, all WLS respondents are high school graduates. Given this fact, and given the prevailing patterns of educational assortative mating, it is not surprising that mother's and father's in this sample have, on average, completed about one year of college.

date of their 1975 interviews[14]. For female respondents, only the first measure of father's 1975 occupation is obtained.

Father's total 1974 earnings are top-coded at $75,000 and then expressed as the natural log of $500 plus the dollar value of the variable. Again, zero is defined as a missing value. Appendix A describes the construction of this variable and the reasons for our decision to use father's earnings rather than a composite measure of total family or household earnings.

Finally, Panel D describes the selected child's educational attainment and occupational status. There is a strikingly bi-modal distribution of child's education; nearly all children have completed either exactly 12 or exactly 16 years of school. Thus, we specify the child's education as a dummy variable which equals one if the child has completed at least one year of college and zero otherwise. As with father's and grandfather's statuses, the selected child's occupational status is expressed on the Duncan SEI.

Preliminary Analyses

Before estimating full, three generation models within LISREL, which will incorporate estimates of error variance from separate measurement models, we explore the relationships between children's, parents', and grandparents' statuses. Figure 3 depicts the relationship between son's, father's, and paternal grandfather's occupational statuses.

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[14] Note that the first measure concerns the father's "current" occupation in 1975 and the second measure concerns the father's "current or last" occupation in 1975. This slight conceptual difference probably doesn't matter very much, since nearly all fathers were employed at the time of the 1975 interview. In separate analyses, we have found a high level of agreement at the major group level between father's 1975 and 1992 reports of their 1975 occupations.

Fathers' and grandfathers' SEIs are divided into quarters in this figure, and the Y axis expresses the mean level of sons' SEI at each level of fathers' and grandfathers' SEIs. Clearly, the mean value of sons' SEI increases as fathers' SEI increases. Sons with fathers in the top quarter of the SEI distribution have a mean SEI of about 53, whereas sons with fathers in the bottom quarter of the SEI distribution have a mean SEI of about 36. Furthermore, Figure 3 suggests that sons whose paternal grandfather was in the top quarter of the SEI distribution have slightly higher SEIs than other sons.

Figure 4 shows the educational attainments of sons, fathers, and paternal grandfathers, and Figure 5 shows the educational attainments of daughters, mothers, and maternal grandmothers. Again, it is clear that there are positive relationships between fathers' and sons' and mothers' and daughters' educational attainments. For example, sons whose fathers completed at least 16 years of school are twice as likely as sons whose fathers only completed grade 12 or less to have themselves completed at least one year of college. At the same time, we find little evidence in Figures 4 or 5 for the hypothesis that grandparents' educational attainments make a difference for grandchildren's attainments within levels of parental schooling. Only among women who completed exactly 12 years of schooling is there ever a monotonic relationship between the schooling of a grandparent and a grandchild.

Table 3 presents a series of logistic regressions of grandchildren's education on parents' and grandparents' characteristics. In these regressions, when we have two measures of a construct, we use the average of the two as an independent variable in the model; when we have one measure of a construct, either because of missing data or because only one measure was obtained in the WLS, we simply use that measure. This analysis is limited to cases with at least one observation of each variable. Finally, we run separate regressions for male and female respondents because of their different patterns of missing data.

In the first model, we only include terms for the paternal grandparents' characteristics and the grandchild's gender[15]. Of course, for female respondents, this model includes fewer independent variables. For both male and female respondents, paternal grandparents' characteristics are significantly associated with grandchildren's educational attainments. The second model only includes terms for maternal grandparents' characteristics, and the third model includes terms for both maternal and paternal grandparents' characteristics. In each of these models, and for both male and female respondents, aspects of maternal and paternal grandparents' characteristics are significantly associated with grandchildren's educations. However, once we add the parents' characteristics, the story changes. After holding constant parents' schooling and father's occupational status and earnings, grandparents' characteristics are no longer significantly associated with the outcome variable.

Table 4 is set up the same way as Table 3, but the outcome of interest is now the grandchild's occupational status (and the regressions are estimated by OLS). We used the same scheme to construct the independent variables as in the models in Table 3, and we have selected the analysis sample in the same manner. Again, the table shows that there

[15] We include a term for grandchild's gender in each model, and indeed the coefficient for this term is always statistically significant. We also specified a model with gender interaction terms, but the coefficients for these interactions were never significant.

are significant associations between grandchildren's and grandparents' statuses in models which only include terms for grandparents' characteristics (whether we consider one or both sets of grandparents). However, once we add terms for the parents' characteristics, the story again becomes quite different. After holding constant parents' educations and fathers' occupational status and earnings, grandparents' characteristics are no longer significantly associated with grandchildren's occupational statuses.

In summary, in Figures 3, 4 and 5 and in Tables 3 and 4 we have found very little support for the hypothesis that grandparents' characteristics affect grandchildren's educational or occupational attainments once parents' characteristics are taken into consideration.

Auxiliary Measurement Models

How might these relationships look within the LISREL framework, in which we can attempt to estimate a model with a full vector of grandparents' characteristics and account for the effects of errors in variables? As described above, the missing data problems have led us to estimate separate measurement models for each of the three "families of origin," so we can later drop one measure of each construct without ignoring measurement error. In the next section we briefly describe the specification and fit of each of these measurement models; then, we borrow the estimates of error variance from these models and apply them to variables in the full model. We provide a more detailed discussion of these models in Appendix B.

The full LISREL model can be expressed in three equations:

$$\eta = \beta \eta + \gamma \xi + \zeta \qquad (2)$$

$$\mathbf{y} = \lambda_y \boldsymbol{\eta} + \epsilon \qquad (3)$$

$$\mathbf{x} = \lambda_x \xi + \boldsymbol{\delta} \qquad (4)$$

where **x** and **y** are observed exogenous and endogenous variables, ϵ and δ are vectors of error terms, η and ξ are unobserved, latent variables, ζ is a vector of random disturbances in η, β and γ are coefficient matrices, and λ_y and λ_x are matrices of factor loadings. Equation 2 is the structural model, while equations 3 and 4 are measurement models for the dependent and independent variables, respectively. The model assumes that ζ is uncorrelated with ξ, ϵ is uncorrelated with η, δ is uncorrelated with ξ, and in most cases that ζ, ϵ, and δ are mutually uncorrelated. In this part of our analysis, we are primarily interested in estimating a series of measurement models for **x** and **y**, as shown in equations 3 and 4.

Substantively, the findings from our auxiliary analyses suggest that the parameters of the measurement model for father's family of origin are invariant across the four subsample groups, defined by the genders of the respondent and his or her selected child, except the error variances in the 1975 paternal grandfather's education variable differ between male and female respondents: Mothers' reports of their husbands' fathers' years of schooling are less accurate than their husbands' reports. The same is true for mother's family of origin: we prefer a four group model that constrains all of the parameters of the model, except the error variances in the 1975 measure of the grandfather's education, to be the same across all four groups. Finally, we conclude that the best specification of the measurement model for the selected child's family of origin constrains all of the parameters of the model, including the means, to be equal across all four groups.

Based on the best-fitting specification for each of the three sets of measurement models described above, we obtained estimated error variances for each variable pertaining to the father's, mother's, and selected child's families of origin. Table 5 reports these error variances, as well as the total variance for each variable as defined in the final analysis sample (which is described below). As specified in the mother's and father's families of origin measurement models, the error variances in measures of grandfathers' education are not constrained to be the same among male and female respondents. Likewise, based on evidence from the "couples" data (Appendix A), we use different estimates of the error variance in the father's 1974 earnings variable for men and women. Excepting these two variables, all estimates of error variance are the same among male and female respondents.

Final Analysis Sample

With estimates of error variance in hand, we now drop one measure of each construct. We decided to drop the measure of each construct that had the most missing data or was not observed either among male or female respondents. Next, we limited the final analysis sample to cases in which there was no missing data for any of the 14 variables retained in the final analysis sample. Table 6 describes the variables included in the final sample. For both mother's and father's families of origin, we dropped the first measures of grandfather's education, grandmother's education, grandfather's occupational status, and parents' income. For the selected child's family of origin, we dropped the first measures of mother's and father's education and the second measure of father's occupational status. After selecting cases with no missing data, we are left with 1,080 male and 1,315 female respondents.

Unfortunately, this scheme still retains asymmetries between men and women in terms of which variables are missing. Specifically, for male respondents, we have no measures of maternal grandmother's education (X_6) or maternal grandparents' income (X_8), and for female respondents, we have no measures of paternal grandmother's education (X_2) or paternal grandparents' income (X_4). Unlike the missing data situations we dealt with in the earlier measurement models, this pattern of missing data is problematic. Despite the fact that many more variables were missing in the measurement model matrices, we were always able to estimate , the covariance matrix of ξ. This is not true in the full model. The crux of the matter is that in none of the four samples do we actually observe four specific moments: The correlations between (1) X_2 and X_6; (2) X_2 and X_8; (3) X_4 and X_6; and (4) X_4 and X_8. Without these moments, we would be unable to specify in the full, three generation model.

We considered two methods of estimating these four missing moments. First, in a special subsample of married pairs of WLS respondents, we do observe these missing moments[16]; however, given the selectivity and size of this subsample (which consists of 103 pairs of high school graduates who married within the sample), we are not confident of their accuracy. Second, we specified a structural equation model to estimate the missing moments. In this model, the four variables pertaining to selected child's family of origin (parents' educational attainments and father's occupational status and earnings) were

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[16] This subsample is described in Appendix A.

specified as *exogenous*, and the eight measures of parents' families of origin were specified as *endogenous*. That is, the model said that the correlations among the socioeconomic characteristics of grandparents were incidental to assortative mating by characteristics of parents. This model of "reverse causation" produced estimates of the correlations among observed grandparents' characteristics that were lower than the correlations actually observed, even when the characteristics of parents were corrected for response error. Thus, we estimated the missing covariances by weighting the model estimates of the missing covariances by the ratio of observed to implied covariances among the observed characteristics of grandparents. These estimates were similar to those in the subsample of married couples, and we used these synthetic estimates in the final models.

Finally, after inserting these four estimated moments into the matrices, we replaced the rest of the missing variances and covariances in the matrices with their observed values in the matrix for the other gender. That is, for variances or covariances that were not observed among male respondents, we borrowed the corresponding variance or covariance from the matrix for female respondents, and *vice versa*. We think that this procedure is justified, since the preferred specifications of the earlier measurement models constrained covariances among constructs to be equal between male and female respondents. In short, by borrowing moments across matrices, we assume that the relationships among grandparents', parents', and grandchildren's statuses are the same regardless of the gender of the WLS respondent. Table 7 presents the final correlation matrices for each group. Because we borrowed moments, there appear to be no missing moments[17].

Three Generation Models without Lagged Effects

How might the relationships between grandparents' characteristics and grandchildren's outcomes look in the context of a full model that incorporates estimates of measurement error? Figure 6 depicts our initial attempt to model these relationships in the LISREL framework. First, we try to determine the best way to specify a three generation model that *does not* include lagged effects of grandparents' characteristics on children's outcomes. Once we have specified this model, we add the lagged effects of grandparents' characteristics on grandchildren's outcomes.

In the model in Figure 6, ξ_1 through ξ_4 represent paternal grandfather's education, paternal grandmother's education, paternal grandfather's occupational status in 1957, and paternal grandparents' income in 1957[18]; ξ_5 through ξ_8 represent maternal grandfather's education, maternal grandmother's education, maternal grandfather's occupational status in 1957, and maternal grandparents' income in 1957[19]. As Figure 6 shows, ξ_1 through ξ_8 are correlated; that is, in this model is symmetric and free. η_1 through η_4 represent aspects of the selected child's family of origin: η_1 and η_2 represent father's and mother's educational attainments, while η_3 and η_4 represent father's 1975 occupational status and

[17] In Table 7, the moments that were not originally observed are in bold-face.

[18] ξ_1 through ξ_4 in this model correspond exactly to ξ_1 through ξ_4 in the measurement model, shown in Figure B1 of Appendix B, for father's family of origin.

[19] ξ_5 through ξ_8 in this model correspond exactly to ξ_5 through ξ_8 in the measurement model, shown in Figure B2 of Appendix B, for the mother's family of origin.

1974 earnings[20]. As the model shows, the disturbances in η_1 through η_4 are freely correlated; that is, grandparents' socioeconomic characteristics do not account for the correlations among parents' characteristics. Finally, η_5 stands for the selected child's education, and η_6 represents the selected child's occupational status in 1992.

In the model there is only one indicator for each of these 14 variables. As discussed above, we have "plugged in" values for the error variances for all of the variables pertaining to the parents' and child's families of origin; however, the implicit measurement structure is not shown in Figure 6 (or any subsequent figures).

As specified in Figure 6, each of the variables pertaining to the father's family of origin affects father's education, father's 1975 occupational status, and father's 1974 earnings. Similarly, each of the variables pertaining to the mother's family of origin affects mother's education and father's 1974 earnings. Then, each of the four variables pertaining to the selected child's family of origin affects the selected child's education and occupational status. Finally, the model specifies that the disturbance in the selected child's educational attainment is correlated with the disturbance in the selected child's occupational status; that is, the model hypothesizes that factors not included in the model jointly influence both educational attainment and occupational achievement among selected children.

We refer to this model as almost fully recursive, because all but a few potential causal paths are included in the model. Specifically, there are no causal arrows leading

[20] η_1 through η_3 in this model correspond to η_1 through η_3 in the measurement model, shown in Figure B3 of Appendix B, for the selected child's family of origin.

from the variables for father's family of origin to mother's education; likewise, there are no causal arrows leading from variables for the mother's family of origin to father's education or occupational status. Finally, no paths in this model lead from either the father's or the mother's family of origin variables to the selected child's outcomes; thus, this model specifies no lagged, two-generation effects.

The model in Figure 6 is only one possible way to specify the process of stratification across three generations without incorporating lagged effects. A more parsimonious specification would place proportionality constraints on the effects of grandparents' and parents' characteristics on variables pertaining to parents and to grandchildren, respectively. For example, such constraints can be expressed in a MIMIC (multiple indicator, multiple cause) model with two equations:

$$\mathbf{y} = \lambda_y \eta + \epsilon \qquad (5)$$

$$\eta = \gamma \xi + \zeta \qquad (6)$$

where **y** is a vector of indicators of the latent variable η, ξ is a vector of determinants of that η, and ζ and ϵ are mutually uncorrelated. Jöreskog and Sörbom (1989) note that equation 5 says that "the y's are congeneric measures of η" and that equation 6 says that "η is linear in the x's plus a random disturbance term."

Thus, instead of hypothesizing that each of the variables pertaining to the selected child's family of origin directly affect the child's education and occupational status variables, one might say that a common factor, "family socioeconomic status," mediates the effects of the parental variables. Such a MIMIC structure may be specified (1) as intervening between the parents' families of origin variables and parents' educational attainments, father's occupational status, and father's 1974 earnings; (2) as intervening between the selected child's family of origin variables and the selected child's education and occupational status variables; or (3) both of these. Figure 7 depicts such a model with MIMIC structures between each generation. As the figure shows, η_7 is a linear composite of each of the variables pertaining to the father's family of origin; this construct has no disturbance. In turn, η_7 accounts for all of the effects of father's family of origin on father's education, father's 1975 occupational status, and father's 1974 earnings. Similarly, η_8 is a construct pertaining to the mother's family of origin; this construct accounts for all of the effects of mother's family of origin on mother's education and father's 1974 earnings. Finally, η_9 is a linear composite of the four variables pertaining to the selected child's family of origin; like η_7 and η_8, it has no disturbance. According to Figure 7, η_9 accounts for the effects of the child's family of origin on his or her educational attainment and occupational status in 1992.

Table 8 describes the fit of the models shown in Figure 6 and Figure 7[21]. Model A considers only male selected children and uses the recursive specification; Model B does the same for female selected children. According to *bic*[22], this recursive specification fits

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[21] In this and subsequent tables that report fit statistics for models utilizing incomplete data, we have reported the "adjusted degrees of freedom" instead of the degrees of freedom reported by LISREL. The "adjustment" consists of subtracting the number of missing diagonal and off-diagonal elements in each matrix in each group of the model from the degrees of freedom reported by LISREL.

[22] Using traditional methods to assess the fit of structural equation models, which consider only the ^{2} test statistic, L^2, and its degrees of freedom, we would reject these models. However, we have elected to assess the fit of our models using the Bayesian information criterion, or *bic*. Developed by Raftery (1993), this statistic takes sample size into consideration in considering the fit of a model to the data; specifically, *bic* = L^2 -

well for both groups of grandchildren. Next, Models C and D use the MIMIC specification for male and female selected children, respectively. As Table 8 shows, the MIMIC specification fits better than the recursive specification in each group. Finally, the bottom panel of Table 8 reports the fit statistics for models in which all parameters are constrained across all four groups. Here, the recursive and MIMIC specifications fit equally well, and the data support the hypothesis that the models are invariant across groups.

Three Generation Models with Lagged Effects

How might lagged effects be added to the models described above? In the recursive specification, we can allow each of the grandparents' status variables to affect the grandchild's outcomes. Or, in the MIMIC specification, we can allow the grandparents' SES constructs to affect the grandchild's outcomes. Figure 8, for example, shows a model in which the grandchild's educational attainment and occupational status are directly affected by the global family SES of each parents' family of origin.

How well do these models fit the data? As Table 9 reports, in *absolute* terms the models which specify lagged effects fit quite well. For example, the recursive model that allows each of the grandparents' status variables to affect the grandchild's education (Model A) fits very well: *bic* = -745. However, when compared to the corresponding models in Table 8, which specify no lagged effects, each of the models in Table 9 fits *worse*. For example, when we compare the recursively specified Models A, B, or C in

(degrees of freedom × ln(sample size)). If *bic* is less than -10, then the model is said to fit the data.

Table 9 with Model E in Table 8, not only is the change in *bic* unfavorable, but the reductions in L^2 are not even statistically significant at the 0.05 level. Utilizing the MIMIC specification, the findings are much the same: when we compare Models D, E, or F in Table 9 with Model F in Table 8, we see that the specification of lagged effects worsens the fit of the models. In short, specifying lagged effects in either the recursive or MIMIC design of the three generation model *detracts* from the fit of those models.

Furthermore, beyond the global tests, the parameters for the lagged effects are almost all small and statistically insignificant. In the recursive specification, the only statistically significant path leading from a grandparent's characteristic to a grandchild's outcome is the one from paternal grandparents' income to the selected child's occupational status. In the MIMIC specification, the only statistically significant path leading from one of the global family SES constructs to a grandchild's outcome is the one from the father's family SES construct to the selected child's occupational status. In both cases, the coefficients for these lagged effects are barely statistically significant; their t-values are about 2.00[23].

In the end, our preferred way of specifying a three generation model (which is shown in Figure 7 and described in Panel F of Table 8) utilizes MIMIC structures and contains no lagged effects; this model fits as well as the fully recursive specification without lagged effects, but is more parsimonious. Furthermore, the data are consistent with the hypothesis that the parameters of this model are invariant across the four gender-

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[23] With a sample as large as 2400, Raftery (1995) suggests that we should not take a point estimate less than 3.6 times its standard error as strong evidence in favor of the alternative hypothesis.

based subsample groups (except that the error variances in the 1975 measure of each grandfathers' education differ for male and female respondents).

The metric and standardized coefficients (and their t-values) for this model are reported in Table 10. As the table indicates, $\beta_{1,7}$, $\beta_{2,8}$, and $\beta_{5,9}$ were initially fixed at 1.00 so that the scales of η_7, η_8, and η_9 would be defined. Table 11 presents the correlations between grandparents' characteristics and grandchildren's outcomes as implied by this final model. Each of the 8 grandparents' characteristics are more highly correlated with grandchildren's schooling than with grandchildren's occupational statuses.

Discussion

We have found little evidence that there are significant, independent effects of grandparents' social or economic statuses on grandchildren's outcomes, net of the effects of parents' characteristics. In other words, the WLS data do not confirm Kiker and Condon's (1980) conclusion that "a man's achievements may affect the achievements of his children a number of generations removed" or Goyder and Curtis' (1977) finding of "direct links between occupational status scores over three generations."

In our regression analysis, we observed that grandparents' characteristics have no significant effects on grandchildren's educational attainment or occupational status once parents' characteristics are held constant. In our structural equation models, we found that even with moderately sophisticated specifications of the causal relations between constructs, and even accounting for errors in variables, the data are not consistent with the hypothesis that grandparents' characteristics directly affect their grandchildren's educational attainment or occupational status. Like Ridge (1974), we find that "there is no direct carry-over of occupational status from the first to the third generation."

Happily, this conclusion suggests that the findings of research on social or economic mobility are not biased by considering only the characteristics of two generations of family members. Again following Ridge (1974), "the effective 'length' of the family is two generations, at least for explanatory models of the type we have constructed here. Knowledge of the grandfather's [or grandmother's] status is redundant." Our findings support the hypothesis that ascertaining grandparents' characteristics would add little to our understanding of how advantage or disadvantage in the parent's generation is handed down or overcome in the grandchild's generation.

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Table 1.
Description of Gender-Based Patterns of Missing Moments in the WLS Data

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
X1	Paternal Grandfather's Education, 1st Measure	1.00																								
X2	Paternal Grandfather's Education, 2nd Measure	F	1.00																							
X3	Paternal Grandmother's Education, 1st Measure	F	F	1.00																						
X4	Paternal Grandmother's Education, 2nd Measure	F	F	F	1.00																					
X5	Paternal Grandfather's Occupation, 1st Measure		F	F	F	1.00																				
X6	Paternal Grandfather's Occupation, 2nd Measure	F	F	F	F	F	1.00																			
X7	Paternal Grandparents' 1957 Income, 1st Measure	F	F	F	F	F	F	1.00																		
X8	Paternal Grandparents' 1957 Income, 2nd Measure	F	F	F	F	F	F	F	1.00																	
X9	Maternal Grandfather's Education, 1st Measure		F	F	F		F	F	F	1.00																
X10	Maternal Grandfather's Education, 2nd Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	1.00															
X11	Maternal Grandmother's Education, 1st Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	1.00														
X12	Maternal Grandmother's Education, 2nd Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	M	1.00													
X13	Maternal Grandfather's Occupation, 1st Measure		F	F	F		F	F	F		M	M	M	1.00												
X14	Maternal Grandfather's Occupation, 2nd Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	M	M	M	1.00											
X15	Maternal Grandparents' 1957 Income, 1st Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	M	M	M	M	1.00										
X16	Maternal Grandparents' 1957 Income, 2nd Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	M	M	M	M	M	1.00									
Y1	Father's Education, 1st Measure		F	F	F		F	F	F		M	M	M		M	M	M	1.00								
Y2	Father's Education, 2nd Measure	F	F	F	F	F	F	F	F	F	M,F	M,F	M,F	F	M,F	M,F	M,F	F	1.00							
Y3	Mother's Education, 1st Measure		F	F	F		F	F	F		M	M	M		M	M	M		F	1.00						
Y4	Mother's Education, 2nd Measure	M	M,F	M,F	M,F	M	M,F	M,F	M,F	M	M	M	M	M	M	M	M	M	M,F	M	1.00					
Y5	Father's 1975 Occupation, 1st Measure		F	F	F		F	F	F		M	M	M		M	M	M		F		M	1.00				
Y6	Father's 1975 Occupation, 2nd Measure	F	F	F	F	F	F	F	F	F	M,F	M,F	M,F	F	M,F	M,F	M,F	F	F	F	M,F	F	1.00			
Y7	Father's 1974 Family Earnings, 1st Measure		F	F	F		F	F	F		M	M	M		M	M	M		F		M		F	1.00		
Y8	Selected Child's Education		F	F	F		F	F	F		M	M	M		M	M	M		F		M		F		1.00	
Y9	Selected Child's Occupation		F	F	F		F	F	F		M	M	M		M	M	M		F		M		F			1.00

Key: F = Moment Missing When Respondent is Female
M = Moment Missing When Respondent is Male
M,F = Moment Missing When Respondent is Either Male or Female
Outlined = Moment Directly Observed

Table 2.
Source, Coding, and Descriptive Statistics for Variables
in the Full Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Father's Family of Origin				Maximum N=865	Maximum N=812	Maximum N=1238	Maximum N=1174
X1	Paternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	10.21 (3.02) N=801	10.29 (3.07) N=744	-	-
X2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	9.83 (2.78) N=836	10.01 (2.99) N=775	10.05 (3.34) N=843	10.10 (3.51) N=818
X3	Paternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	10.58 (2.87) N=795	10.45 (2.83) N=740	-	-
X4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.55 (2.55) N=838	10.56 (2.59) N=777	-	-
X5	Paternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	29.74 (22.00) N=768	28.30 (20.41) N=713	-	-
X6	"	'75 Survey	Duncan SEI of Head of Household in 1957	33.43 22.25 N=858	33.29 (22.83) N=792	32.09 (22.15) N=1131	30.80 (21.62) N=1074
X7	Paternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	8.64 (0.59) N=767	8.61 (0.60) N=711	-	-
X8	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	8.59 (0.58) N=768	8.56 (0.62) N=712	-	-
B. Mother's Family of Origin							
X9	Maternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.18 (3.16) N=1151	10.09 (2.97) N=1087
X10	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.14 (3.35) N=702	10.44 (3.31) N=645	9.93 (2.92) N=1175	9.83 (2.75) N=1124
X11	Maternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.53 (2.96) N=1182	10.40 (2.85) N=1115
X12	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.51 (2.58) N=1184	10.38 (2.47) N=1139
X13	Maternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	-	-	30.56 (22.12) N=1083	29.79 (21.23) N=1031
X14	"	'75 Survey	Duncan SEI of Head of Household in 1957	32.73 (21.67) N=825	35.13 (23.06) N=766	34.10 (23.00) N=1220	33.70 (22.31) N=1143

Table 2. (Continued...)
Source, Coding, and Descriptive Statistics for Variables
in the Full Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Maximum	Maximum	Maximum	Maximum
B. Mother's Family of Origin (Continued...)				N=865	N=812	N=1238	N=1174
X15	Maternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	-	-	8.62 (0.60) N=1082	8.61 (0.59) N=1030
X16	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	-	-	8.59 (0.60) N=1083	8.56 (0.59) N=1030
C. Selected Child's Family of Origin							
Y1	Father's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	13.65 (2.06) N=783	13.71 (2.12) N=727	-	-
Y2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	13.54 (2.29) N=865	13.55 (2.32) N=812	13.14 (2.60) N=1235	13.14 (2.57) N=1169
Y3	Mother's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	13.07 (1.54) N=1096	13.08 (1.55) N=1037
Y4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	12.64 (1.62) N=864	12.67 (1.70) N=811	12.76 (1.48) N=1238	12.75 (1.46) N=1174
Y5	Father's Occupational Status	'75 Survey	Duncan SEI of Father's Current or Most Recent Occupation in 1975	49.46 (23.02) N=859	48.30 (23.28) N=805	46.03 (23.96) N=1221	46.56 (24.04) N=1163
Y6	"	'92 Survey	Duncan SEI of Father's Current Occupation in 1975	N=48.639 (23.57) N=837	48.65 (24.06) N=791	-	-
Y7	Father's Total 1974 Earnings	'75 Survey	Log ($500 + Father's Total Earnings in 1974) (Top-Coded at $75,000)	9.69 (0.43) N=859	9.65 (0.42) N=810	9.59 (0.44) N=1226	9.60 (0.46) N=1163
D. Selected Child's Characteristics							
Y8	Selected Child's Educational Attainment	'92 Survey	Equals 1 if Child Has Completed at Least 1 Year of College	0.55 (0.50) N=865	0.64 (0.48) N=812	0.59 (0.49) N=1238	0.63 (0.48) N=1174
Y9	Selected Child's Occupational Status	'92 Survey	Duncan SEI of Child's Current Occupation in 1992	43.78 (23.55) N=865	50.92 (21.36) N=812	44.37 (24.40) N=1238	49.31 (21.19) N=1174

Table 3.
Logistic Regressions of Selected Child's Education on "Best Measures" of
Parent's and Grandparent's Characteristics

A. Male Respondents	(1)		(2)		(3)		(4)	
	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)
Paternal Grandfather's Education	**1.08**	**(2.77)**	-	-	**1.07**	**(2.65)**	1.02	(0.70)
Paternal Grandmother's Education	**1.07**	**(2.57)**	-	-	**1.06**	**(2.23)**	1.03	(0.99)
Paternal Grandfather's 1957 Occupational Status	**1.01**	**(2.17)**	-	-	1.01	(1.92)	1.00	(0.18)
Paternal Grandparents' Earnings	1.00	(0.04)	-	-	0.96	(0.33)	0.75	(2.37)
Maternal Grandfather's Education	-	-	0.99	(0.50)	0.99	(1.24)	0.98	(1.46)
Maternal Grandmother's Education	-	-	-	-	-	-	-	-
Maternal Grandfather's 1957 Occupational Status	-	-	**1.01**	**(5.56)**	**1.01**	**(4.15)**	1.00	(0.23)
Maternal Grandparents' Earnings	-	-	-	-	-	-	-	-
Father's Education	-	-	-	-	-	-	**1.31**	**(5.84)**
Mother's Education	-	-	-	-	-	-	**1.49**	**(6.55)**
Father's 1975 Occupational Status	-	-	-	-	-	-	**1.01**	**(2.64)**
Father's 1974 Earnings	-	-	-	-	-	-	**1.46**	**(2.31)**
Selected Child is Female	**0.88**	**(2.38)**	**0.89**	**(2.10)**	**0.88**	**(2.23)**	**0.86**	**(2.53)**
Constant	0.28	(1.38)	1.00	(0.03)	0.38	(1.04)	**0.00**	**(5.51)**
N	1468		1468		1468		1468	
-2 LL	1925.26		1948.22		1907.48		1667.51	
df	1462		1464		1460		1456	

B. Female Respondents	(1)		(2)		(3)		(4)	
	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)	Exp(B)	(B/S.E.)
Paternal Grandfather's Education	0.99	(1.00)	-	-	0.99	(1.24)	1.00	(0.29)
Paternal Grandmother's Education	-	-	-	-	-	-	-	-
Paternal Grandfather's 1957 Occupational Status	**1.02**	**(8.83)**	-	-	**1.02**	**(6.12)**	**1.01**	**(2.04)**
Paternal Grandparents' Earnings	-	-	-	-	-	-	-	-
Maternal Grandfather's Education	-	-	**1.09**	**(3.55)**	1.07	**(2.83)**	1.03	(1.10)
Maternal Grandmother's Education	-	-	**1.07**	**(3.25)**	**1.07**	**(3.06)**	1.01	(0.42)
Maternal Grandfather's 1957 Occupational Status	-	-	**1.01**	**(2.75)**	**1.01**	**(2.25)**	1.00	(0.35)
Maternal Grandparents' Earnings	-	-	1.11	(1.11)	1.04	(0.36)	0.95	(0.50)
Father's Education	-	-	-	-	-	-	**1.19**	**(5.54)**
Mother's Education	-	-	-	-	-	-	**1.42**	**(6.38)**
Father's 1975 Occupational Status	-	-	-	-	-	-	**1.01**	**(4.19)**
Father's 1974 Earnings	-	-	-	-	-	-	1.23	(1.61)
Selected Child is Female	**0.88**	**(2.61)**	**0.89**	**(2.55)**	**0.88**	**(2.67)**	**0.89**	**(2.40)**
Constant	0.98	(0.12)	**0.11**	**(2.80)**	**0.19**	**(2.08)**	**0.00**	**(5.65)**
N	1988		1988		1988		1988	
-2 LL	2552.82		2531.83		2490.60		2268.82	
df	1984		1982		1980		1976	

Table 4.
OLS Regressions of Selected Child's Occupational Status on "Best Measures" of
Parent's and Grandparent's Characteristics

A. Male Respondents	(1)		(2)		(3)		(4)	
	B	(B/S.E.)	B	(B/S.E.)	B	(B/S.E.)	B	(B/S.E.)
Paternal Grandfather's Education	**0.66**	**(2.20)**	-	-	**0.61**	**(2.06)**	0.20	(0.68)
Paternal Grandmother's Education	0.15	(0.54)	-	-	0.07	(0.25)	-0.15	(0.55)
Paternal Grandfather's 1957 Occupational Status	0.08	(1.88)	-	-	0.07	(1.76)	0.02	(0.64)
Paternal Grandparents' Earnings	**3.59**	**(2.85)**	-	-	**3.31**	**(2.63)**	1.58	(1.28)
Maternal Grandfather's Education	-	-	-0.02	(0.15)	-0.11	(0.79)	-0.13	(0.98)
Maternal Grandmother's Education	-	-	-	-	-	-	-	-
Maternal Grandfather's 1957 Occupational Status	-	-	**0.13**	**(4.41)**	**0.09**	**(2.98)**	0.01	(0.25)
Maternal Grandparents' Earnings	-	-	-	-	-	-	-	-
Father's Education	-	-	-	-	-	-	**1.48**	**(3.59)**
Mother's Education	-	-	-	-	-	-	**1.33**	**(2.89)**
Father's 1975 Occupational Status	-	-	-	-	-	-	**0.13**	**(3.73)**
Father's 1974 Earnings	-	-	-	-	-	-	2.21	(1.37)
Selected Child is Female	**7.52**	**(5.98)**	**6.95**	**(5.46)**	**7.31**	**(5.81)**	**7.33**	**(6.03)**
Constant	2.37	(0.23)	**39.94**	**(20.89)**	4.53	(0.43)	**-34.25**	**(2.00)**
N	1323		1323		1323		1323	
R-Square	0.06		0.04		0.07		0.14	

B. Female Respondents	(1)		(2)		(3)		(4)	
	B	(B/S.E.)	B	(B/S.E.)	B	(B/S.E.)	B	(B/S.E.)
Paternal Grandfather's Education	-0.08	(0.79)	-	-	-0.09	(0.92)	-0.03	(0.28)
Paternal Grandmother's Education	-	-	-	-	-	-	-	-
Paternal Grandfather's 1957 Occupational Status	**0.16**	**(6.79)**	-	-	**0.12**	**(4.73)**	0.04	(1.70)
Paternal Grandparents' Earnings	-	-	-	-	-	-	-	-
Maternal Grandfather's Education	-	-	**0.78**	**(3.10)**	**0.64**	**(2.54)**	0.39	(1.58)
Maternal Grandmother's Education	-	-	0.38	(1.61)	0.35	(1.50)	0.03	(0.13)
Maternal Grandfather's 1957 Occupational Status	-	-	0.05	(1.35)	0.03	(0.96)	-0.01	(0.15)
Maternal Grandparents' Earnings	-	-	1.43	(1.37)	0.78	(0.75)	0.10	(0.09)
Father's Education	-	-	-	-	-	-	**0.59**	**(2.10)**
Mother's Education	-	-	-	-	-	-	**0.94**	**(2.13)**
Father's 1975 Occupational Status	-	-	-	-	-	-	**0.14**	**(4.88)**
Father's 1974 Earnings	-	-	-	-	-	-	**2.77**	**(2.24)**
Selected Child is Female	**4.88**	**(4.61)**	**4.89**	**(4.63)**	**4.98**	**(4.74)**	**4.61**	**(4.49)**
Constant	**40.52**	**(24.95)**	**19.17**	**(2.22)**	**24.20**	**(2.76)**	-14.14	(0.99)
N	1860		1860		1860		1860	
R-Square	0.03		0.04		0.05		0.09	

Table 5.
Error Variances, Variances, and Implied Reliabilities of Variables in the Final Analysis Samples

		Estimated Error Variance		Total Variance in Final Analysis Samples				Implied Reliabilities in Final Analysis Samples			
				Male R.		Female R.		Male R.		Female R.	
		Male Resp.	Fem. Resp.	Male Kid	Fem. Kid	Male Kid	Fem. Kid	Male Kid	Fem. Kid	Male Kid	Fem. Kid
X2	Dad's Dad's Education	1.68	3.68	7.62	9.42	11.06	12.85	0.78	0.82	0.67	0.71
X4	Dad's Mom's Education	1.33	1.33	6.41	6.52	6.41	6.52	0.79	0.80	0.79	0.80
X6	Dad's Dad's Occupation	124.64	124.64	528.91	527.53	559.61	535.46	0.76	0.76	0.78	0.77
X8	Dad's Parents' Income	0.067	0.067	0.325	0.386	0.325	0.386	0.79	0.83	0.79	0.83
X10	Mom's Dad's Education	3.98	1.55	10.61	11.28	9.50	8.04	0.62	0.65	0.84	0.81
X12	Mom's Mom's Education	0.97	0.97	6.90	6.48	6.90	6.48	0.86	0.85	0.86	0.85
X14	Mom's Dad's Occupation	131.64	131.64	500.82	554.46	591.12	511.85	0.74	0.76	0.78	0.74
X16	Mom's Parents' Income	0.061	0.061	0.371	0.332	0.371	0.332	0.84	0.82	0.84	0.82
Y2	Dad's Education	0.72	0.72	5.41	5.86	7.26	7.01	0.87	0.88	0.90	0.90
Y4	Mom's Education	0.45	0.45	2.67	2.85	2.51	2.50	0.83	0.84	0.82	0.82
Y5	Dad's Occupation	99.32	99.32	526.66	547.89	589.13	586.56	0.81	0.82	0.83	0.83
Y7	Dad's 1974 Earnings	0.043	0.024	0.185	0.184	0.237	0.217	0.77	0.77	0.90	0.89
Y8	Selected Child's Education	0.00	0.00	0.24	0.22	0.23	0.22	1.00	1.00	1.00	1.00
Y9	Selected Child's Occupation	0.00	0.00	614.94	454.12	608.21	471.41	1.00	1.00	1.00	1.00

Note: The figures for total variance were derived from final analysis samples; full correlation matrices for these samples can be found in Table 7.

Table 6.
Source, Coding, and Descriptive Statistics for Variables
in the Final Analysis Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				N=576	N=504	N=664	N=651
A. Father's Family of Origin							
X1	Paternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
X2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	9.83 (2.76)	10.04 (3.07)	10.18 (3.33)	10.20 (3.58)
X3	Paternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
X4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.55 (2.53)	10.52 (2.55)	-	-
X5	Paternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	-	-	-	-
X6	"	'75 Survey	Duncan SEI of Head of Household in 1957	34.41 (23.00)	33.39 (22.97)	35.25 (23.66)	33.85 (23.14)
X7	Paternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	-	-	-	-
X8	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	8.62 (0.57)	8.57 (0.62)	-	-
B. Mother's Family of Origin							
X9	Maternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
X10	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.18 (3.26)	10.43 (3.36)	10.13 (3.08)	9.94 (2.84)
X11	Maternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
X12	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.68 (2.63)	10.48 (2.55)
X13	Maternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	-	-	-	-
X14	"	'75 Survey	Duncan SEI of Head of Household in 1957	34.14 (22.38)	37.19 (23.55)	36.31 (24.31)	34.63 (22.62)

Table 6. (Continued...)
Source, Coding, and Descriptive Statistics for Variables
in the Final Analysis Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				N=576	N=504	N=664	N=651
B. Mother's Family of Origin (Continued...)							
X15	Maternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	-	-	-	-
X16	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	-	-	8.65 (0.61)	8.61 (0.58)
C. Selected Child's Family of Origin							
Y1	Father's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
Y2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	13.62 (2.33)	13.73 (2.42)	13.57 (2.70)	13.58 (2.65)
Y3	Mother's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	-	-
Y4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	12.72 (1.63)	12.83 (1.69)	12.91 (1.59)	12.93 (1.58)
Y5	Father's Occupational Status	'75 Survey	Duncan SEI of Father's Current or Most Recent Occupation in 1975	50.32 (22.95)	49.24 (23.41)	49.85 (24.27)	49.77 (24.22)
Y6	"	'92 Survey	Duncan SEI of Father's Current Occupation in 1975	-	-	-	-
Y7	Father's Total 1974 Earnings	'75 Survey	Log ($500 + Father's Total Earnings in 1974) (Top-Coded at $75,000)	9.70 (0.43)	9.66 (0.43)	9.63 (0.49)	9.64 (0.47)
D. Selected Child's Characteristics							
Y8	Selected Child's Educational Attainment	'92 Survey	Equals 1 if Child Has Completed at Least 1 Year of College	0.58 (0.49)	0.67 (0.47)	0.63 (0.48)	0.68 (0.47)
Y9	Selected Child's Occupational Status	'92 Survey	Duncan SEI of Child's Current Occupation in 1992	45.10 (24.80)	52.25 (21.31)	46.01 (24.66)	50.34 (21.71)

Table 7.

Estimated Correlations, Standard Deviations, and Means of Variables in the Final Analysis Samples: Wisconsin Longitudianl Study

Male Respondents, Male Selected Child (N=576)

	X2	X4	X6	X8	X10	X12	X14	X16	Y2	Y4	Y5	Y7	Y8	Y9
X2	1.0000													
X4	0.4584	1.0000												
X6	0.5135	0.3215	1.0000											
X8	0.2867	0.2184	0.4142	1.0000										
X10	0.2786	0.2211	0.2167	0.1992	1.0000									
X12	**0.3697**	**0.3543**	**0.2261**	**0.2622**	**0.5441**	**1.0000**								
X14	0.2235	0.1765	0.2042	0.2128	0.4880	**0.4363**	1.0000							
X16	**0.2614**	**0.3565**	**0.2706**	**0.3016**	**0.3788**	**0.3079**	**0.5179**	**1.0000**						
Y2	0.3242	0.2431	0.2528	0.1744	0.2650	**0.4004**	0.3042	**0.2714**	1.0000					
Y4	0.2742	0.2620	0.2336	0.2086	0.3283	**0.3722**	0.2538	**0.3070**	0.5344	1.0000				
Y5	0.2488	0.1963	0.2625	0.2136	0.2028	**0.1957**	0.1892	**0.2359**	0.5657	0.1600	1.0000			
Y7	0.1761	0.1932	0.2045	0.2170	0.2480	**0.1624**	0.1763	**0.2820**	0.3110	0.2554	0.3488	1.0000		
Y8	0.1962	0.1221	0.1657	0.1203	0.2298	**0.1454**	0.1986	**0.1138**	0.3931	0.3484	0.3224	0.2095	1.0000	
Y9	0.2112	0.0991	0.1719	0.1555	0.2237	**0.0948**	0.1755	**0.1157**	0.3541	0.2943	0.2966	0.1994	0.4793	1.0000
SD	2.7600	2.5310	22.9980	0.5700	3.2570	**2.6260**	22.3790	**0.6090**	2.3250	1.6340	22.9490	0.4300	0.4930	24.7980
Mean	9.8320	10.5490	34.4110	8.6200	10.1810	**10.6810**	34.1360	**8.6480**	13.6180	12.7190	50.3210	9.7020	0.5830	45.1040

Male Respondent, Female Selected Child (N=504)

	X2	X4	X6	X8	X10	X12	X14	X16	Y2	Y4	Y5	Y7	Y8	Y9
X2	1.0000													
X4	0.5245	1.0000												
X6	0.5235	0.3059	1.0000											
X8	0.2533	0.1914	0.4163	1.0000										
X10	0.2610	0.2261	0.1796	0.1428	1.0000									
X12	**0.2755**	**0.3475**	**0.1285**	**0.2768**	**0.3600**	**1.0000**								
X14	0.1924	0.2184	0.1060	0.0826	0.5190	**0.3167**	1.0000							
X16	**0.1976**	**0.2304**	**0.2262**	**0.2368**	**0.2123**	**0.1972**	**0.3281**	**1.0000**						
Y2	0.3138	0.2188	0.2498	0.2090	0.2975	**0.3246**	0.3476	**0.2557**	1.0000					
Y4	0.2966	0.2207	0.2202	0.1522	0.3299	**0.3003**	0.3484	**0.1577**	0.5740	1.0000				
Y5	0.2813	0.1815	0.3024	0.2771	0.2437	**0.1991**	0.2641	**0.1960**	0.5510	0.3605	1.0000			
Y7	0.1636	0.1876	0.2783	0.2642	0.1613	**0.1454**	0.2082	**0.1259**	0.3765	0.2867	0.3853	1.0000		
Y8	0.2026	0.1320	0.0722	0.0332	0.0937	**0.1059**	0.1127	**0.1402**	0.3274	0.3194	0.2377	0.2071	1.0000	
Y9	0.1059	0.0830	0.0523	0.0911	0.0616	**0.1079**	0.0429	**0.0370**	0.2285	0.1472	0.2014	0.1328	0.2783	1.0000
SD	3.0700	2.5530	22.9680	0.6210	3.3580	**2.5460**	23.5470	**0.5760**	2.4200	1.6880	23.4070	0.4290	0.4720	21.3100
Mean	10.0400	10.5180	33.3710	8.5660	10.4270	**10.4750**	37.1920	**8.6060**	13.7320	12.8330	49.2420	9.6640	0.6670	52.2500

Note: Bold-faced entries are synthetic estimates. See text for details.

Table 7. (Continued...)

Estimated Correlations, Standard Deviations, and Means of Variables in the Final Analysis Samples: Wisconsin Longitudianl Study

Female Respondent, Male Selected Child (N=664)

	X2	X4	X6	X8	X10	X12	X14	X16	Y2	Y4	Y5	Y7	Y8	Y9
X2	1.0000													
X4	**0.3804**	**1.0000**												
X6	0.5733	**0.3126**	1.0000											
X8	**0.2379**	**0.2184**	**0.4027**	**1.0000**										
X10	0.3596	**0.2337**	0.3030	**0.2105**	1.0000									
X12	0.3068	**0.3543**	0.2198	**0.2622**	0.5750	1.0000								
X14	0.3188	**0.1625**	0.3130	**0.1959**	0.5811	0.4016	1.0000							
X16	0.2169	**0.3565**	0.2631	**0.3016**	0.4003	0.3079	0.4767	1.0000						
Y2	0.4185	**0.2097**	0.3839	**0.1505**	0.3553	0.3454	0.4042	0.2341	1.0000					
Y4	0.3147	**0.2701**	0.3056	**0.2150**	0.4182	0.3837	0.3897	0.3165	0.4824	1.0000				
Y5	0.2689	**0.1856**	0.3069	**0.2020**	0.2054	0.1850	0.2973	0.2230	0.5854	0.3606	1.0000			
Y7	0.1568	**0.1706**	0.2325	**0.1916**	0.1980	0.1434	0.2210	0.2490	0.2914	0.1529	0.3722	1.0000		
Y8	0.1436	**0.1246**	0.1947	**0.1228**	0.1658	0.1484	0.1843	0.1162	0.3483	0.2505	0.2928	0.1874	1.0000	
Y9	0.1377	**0.0996**	0.1755	**0.1564**	0.1627	0.0953	0.1512	0.1163	0.2765	0.1820	0.2990	0.1685	0.4285	1.0000
SD	3.3260	**2.5310**	23.6560	**0.5700**	3.0820	2.6260	24.3130	0.6090	2.6950	1.5850	24.2720	0.4870	0.4830	24.6620
Mean	10.1790	**10.5490**	35.2480	**8.6200**	10.1250	10.6810	36.3120	8.6480	13.5690	12.9070	49.8450	9.6300	0.6310	46.0120

Female Respondent, Female Selected Child (N=651)

	X2	X4	X6	X8	X10	X12	X14	X16	Y2	Y4	Y5	Y7	Y8	Y9
X2	1.0000													
X4	**0.4493**	**1.0000**												
X6	0.5371	**0.3036**	1.0000											
X8	**0.2170**	**0.1914**	**0.4132**	**1.0000**										
X10	0.2752	**0.2678**	0.2247	**0.1691**	1.0000									
X12	0.2360	**0.3475**	0.1275	**0.2768**	0.4264	1.0000								
X14	0.2239	**0.2273**	0.2296	**0.0860**	0.5081	0.3296	1.0000							
X16	0.1693	**0.2304**	0.2245	**0.2368**	0.2515	0.1972	0.3415	1.0000						
Y2	0.3668	**0.2000**	0.3568	**0.1911**	0.3015	0.2968	0.2561	0.2338	1.0000					
Y4	0.2572	**0.2356**	0.2238	**0.1625**	0.2822	0.3206	0.2580	0.1684	0.4807	1.0000				
Y5	0.2639	**0.1754**	0.3238	**0.2678**	0.2397	0.1924	0.1970	0.1894	0.6251	0.3111	1.0000			
Y7	0.2180	**0.1727**	0.2596	**0.2432**	0.1535	0.1339	0.1686	0.1159	0.3510	0.2101	0.4488	1.0000		
Y8	0.1891	**0.1340**	0.2160	**0.0337**	0.1734	0.1075	0.1393	0.1423	0.3405	0.2811	0.5328	0.1907	1.0000	
Y9	0.1204	**0.0815**	0.1151	**0.0894**	0.1052	0.1059	0.0969	0.0363	0.1741	0.1623	0.1816	0.1528	0.3420	1.0000
SD	3.5840	**2.5530**	23.1400	**0.6210**	2.8350	2.5460	22.6240	0.5760	2.6470	1.5810	24.2190	0.4660	0.4650	21.7120
Mean	10.2040	**10.5180**	33.8470	**8.5660**	9.9350	10.4750	34.6320	8.6060	13.5760	12.9290	49.7710	9.6380	0.6840	50.3420

Note: Bold-faced entries are synthetic estimates. See text for details.

Table 8.
Specifications and Fit Statistics for Three Generation Models Without Lagged Effects

	Description of Model	Sample Composition	Sample Size	Adjusted Degrees of Freedom	Chi-Square	BIC
Two Group Models						
A.	Fully Recursive Model; All Parameters Constrained Across Samples of Male, Female Respondents	Male Selected Kids	1240	79	396.70	-166.01
B.	Fully Recursive Model; All Parameters Constrained Across Samples of Male, Female Respondents	Female Selected Kids	1155	79	378.18	-178.92
C.	MIMIC Model; All Parameters Constrained Across Samples of Male, Female Respondents	Male Selected Kids	1240	91	459.22	-188.96
D.	MIMIC Model; All Parameters Constrained Across Samples of Male, Female Respondents	Female Selected Kids	1155	91	423.55	-218.17
Four Group Models						
E.	Fully Recursive Model; All Parameters Constrained Across All Four Samples	Male and Female Selected Kids	2395	235	1032.57	-796.00
F.	MIMIC Model; All Parameters Constrained Across All Four Samples	Male and Female Selected Kids	2395	247	1128.76	-793.18

Table 9.
Specifications and Fit Statistics for Three Generation Models With Lagged Effects

	Description of Model	Sample Composition	Sample Size	Adjusted Degrees of Freedom	Chi-Square	BIC
<u>Four Group Models: Recursive Specification</u>						
A.	Fully Recursive Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Characteristics on Selected Child's Education*	Male and Female Selected Kids	2395	227	1017.46	-748.86
B.	Fully Recursive Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Characteristics on Selected Child's Occupational Status*	Male and Female Selected Kids	2395	227	1017.96	-748.36
C.	Fully Recursive Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Characteristics on Selected Child's Education and Occupational Status*	Male and Female Selected Kids	2395	219	1004.96	-699.11
<u>Four Group Models: MIMIC Specification</u>						
D.	MIMIC Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Latent SES on Selected Child's Education*	Male and Female Selected Kids	2395	245	1128.13	-778.25
E.	MIMIC Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Latent SES on Selected Child's Occupational Status*	Male and Female Selected Kids	2395	245	1124.15	-782.23
F.	MIMIC Model; All Parameters, Constrained Across All Four Samples *Model Includes Lagged Effects of Grandparents' Characteristics on Selected Child's Education and Occupational Status*	Male and Female Selected Kids	2395	243	1123.78	-767.04

Table 10.
Unstandardized and Standardized Structural Coefficients and T-Values Corresponding to Model "F" in Table 8 (Shown in Figure 7)
(Standardized Coefficients in Italics, T-Values in Parentheses)

	Ksi 1	Ksi 2	Ksi 3	Ksi 4	Ksi 5	Ksi 6	Ksi 7	Ksi 8	Eta 1	Eta 2	Eta 3	Eta 4	Eta 5	Eta 6	Eta 7	Eta 8	Eta 9
Eta 1															1.00		
															0.41		
															-		
Eta 2																1.00	
																0.42	
																-	
Eta 3															8.73		
															0.39		
															(18.41)		
Eta 4															0.12	0.05	
															0.27	*0.08*	
															(9.35)	(2.91)	
Eta 5																	1.00
																	0.42
																	-
Eta 6																	34.63
																	0.30
																	(14.19)
Eta 7	0.24	0.01	0.01	0.51													
	0.68	*0.02*	*0.21*	*0.29*													
	(6.58)	(0.36)	(2.14)	(4.76)													
Eta 8					0.12	0.09	0.00	0.32									
					0.55	*0.38*	*0.02*	*0.29*									
					(5.21)	(5.33)	(0.17)	(4.44)									
Eta 9									0.02	0.05	0.01	0.03					
									0.23	*0.38*	*0.60*	*0.06*					
									(3.04)	(6.99)	(7.87)	(1.17)					

Note: Beta(1,7), Beta(2,8), and Beta(5,9) were initially fixed at 1.00 so that the scales of Eta7, Eta8, and Eta9 would be defined.

Key:
Ksi 1: Dad's Dad's Education
Ksi 2: Dad's Mom's Education
Ksi 3: Dad's Dad's Occupation
Ksi 4: Dad's Parents' Income
Ksi 5: Mom's Dad's Education
Ksi 6: Mom's Mom's Educ.
Ksi 7: Mom's Dad's Occup.
Ksi 8: Mom's Parents' Income
Eta 1: Dad's Education
Eta 2: Mom's Education
Eta 3: Dad's 1975 Occupation
Eta 4: Father's 1974 Earnings
Eta 5: Child's Education
Eta 6: Child's Occupation
Eta 7: Dad's Family SES
Eta 8: Mom's Family SES
Eta 9: Child's Family SES

Table 11.
Correlations Between Grandparents' Characteristics and Grandchildrens' Outcomes
as Implied by the Final Model (Model "F" in Table 8, Shown in Figure 7)

	Ksi 1	Ksi 2	Ksi 3	Ksi 4	Ksi 5	Ksi 6	Ksi 7	Ksi 8	Eta 7	Eta 8
Eta 5	0.17	0.12	0.15	0.11	0.13	0.12	0.10	0.10	0.18	0.14
Eta 6	0.12	0.08	0.11	0.08	0.09	0.08	0.07	0.07	0.13	0.10

Key:
Ksi 1: Dad's Dad's Education
Ksi 2: Dad's Mom's Education
Ksi 3: Dad's Dad's Occupation
Ksi 4: Dad's Parents' Income
Ksi 5: Mom's Dad's Education
Ksi 6: Mom's Mom's Educ.
Ksi 7: Mom's Dad's Occup.
Ksi 8: Mom's Parents' Income
Eta 5: Child's Education
Eta 6: Child's Occupation
Eta 7: Dad's Family SES
Eta 8: Mom's Family SES

Figure 1.
A Model of the Stratification Process Across Three Generations

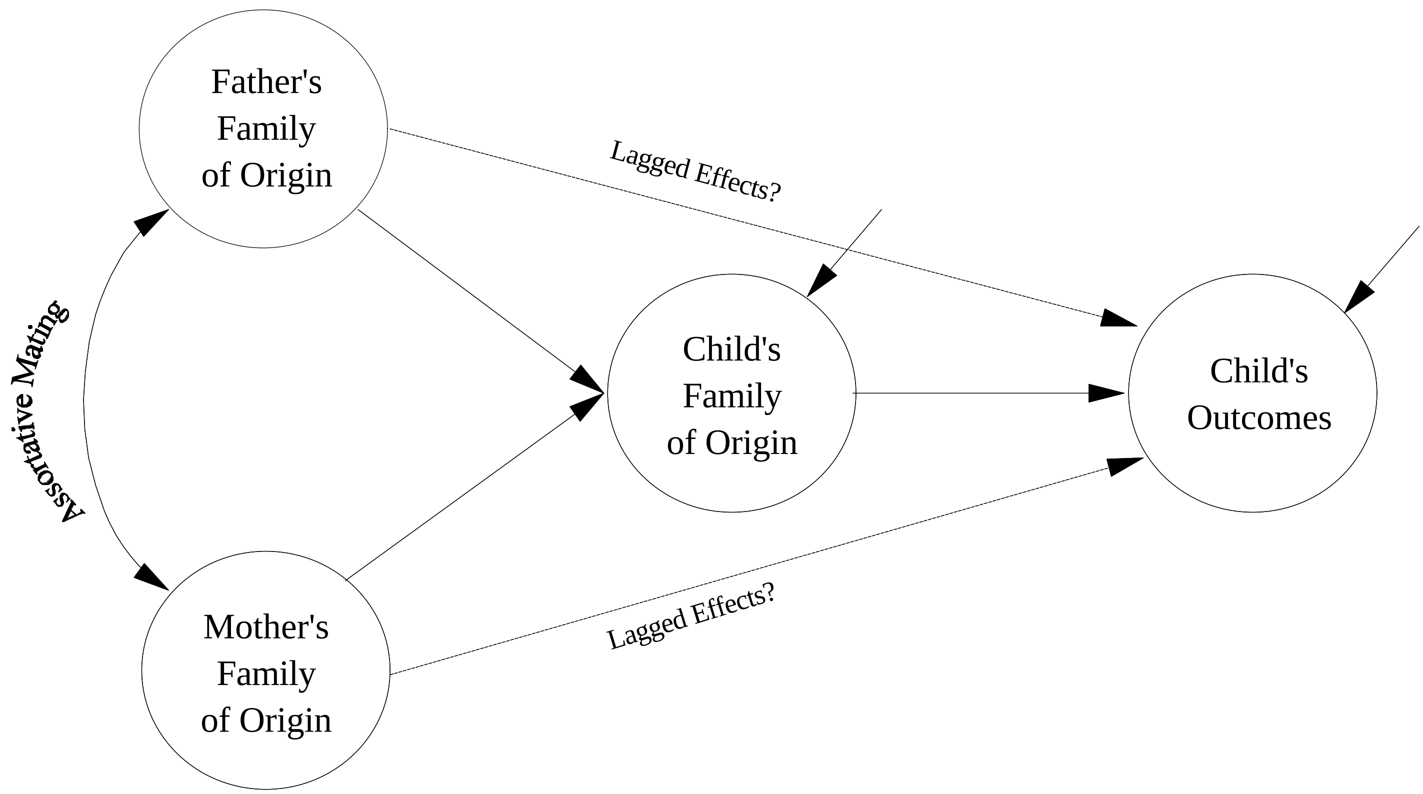


Figure 2.
Detailed Design for a Model of the
Stratification Process Across Three Generations

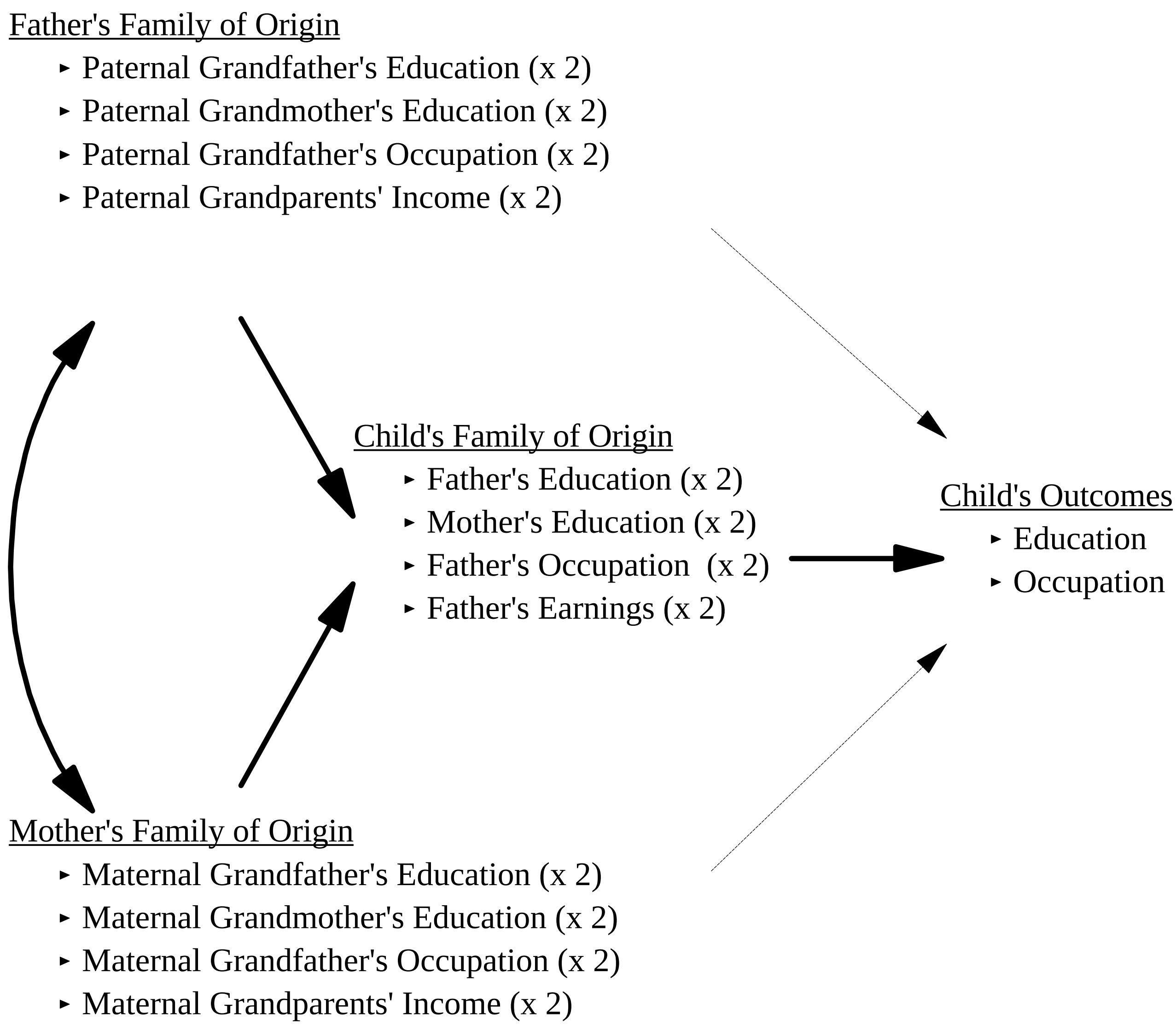


Figure 3.
Son's SEI, by Father's and Grandfather's SEI

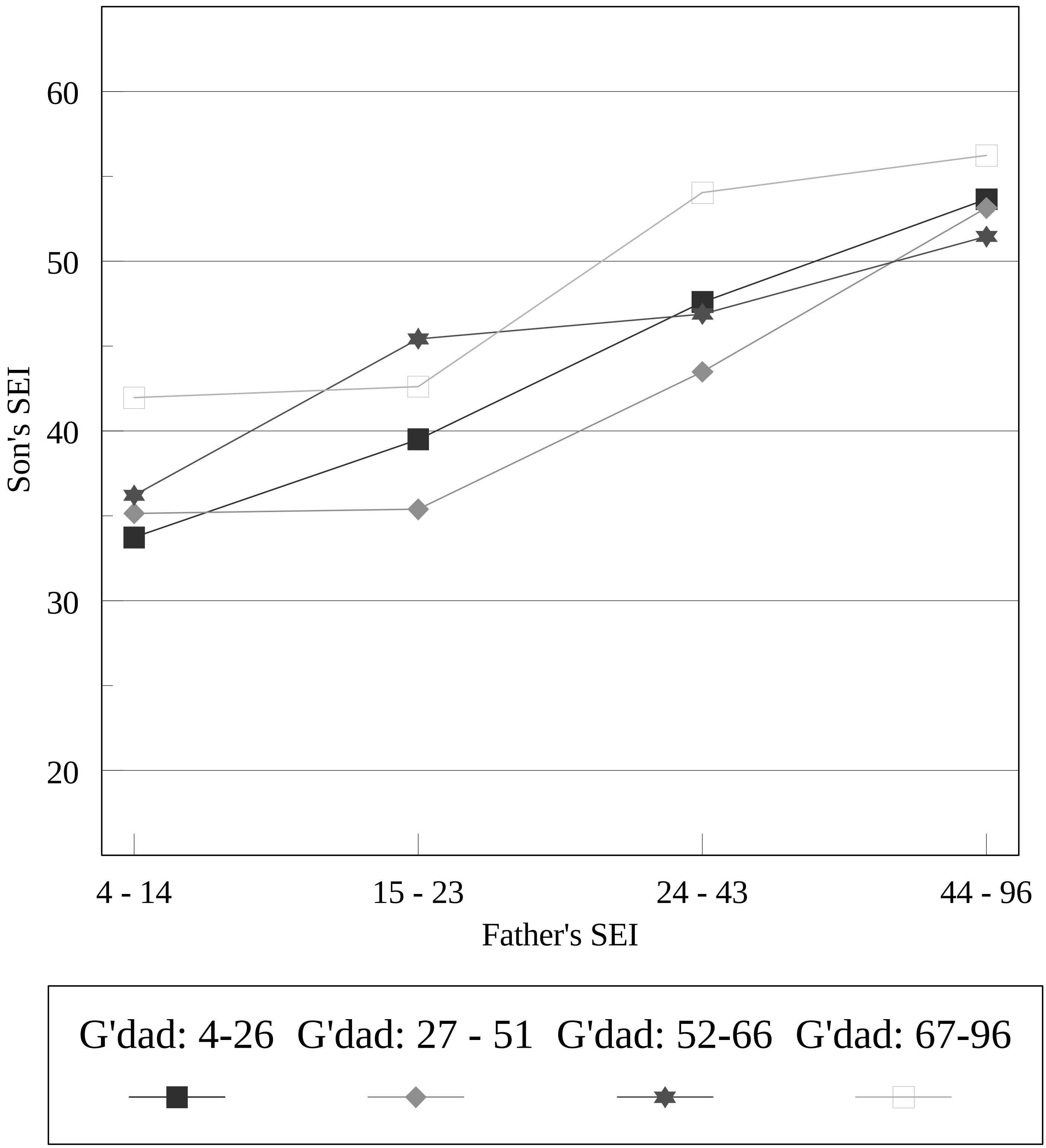


Figure 4.
Percentage of Sons Completing 1 Year of College by Father's and Grandfather's Educations

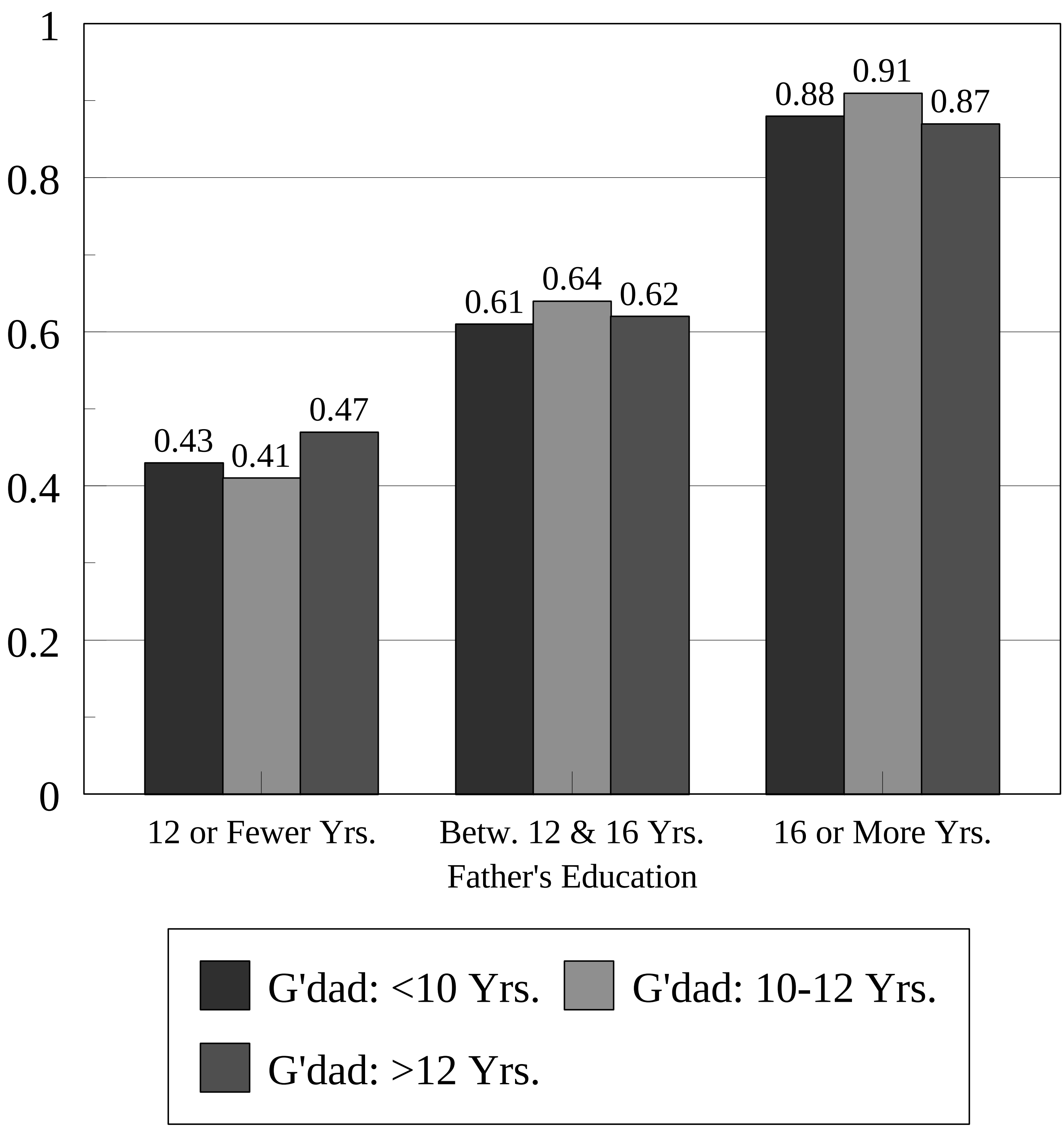


Figure 5.
Percentage of Daughters Completing 1 Year of College
by Mother's and Grandmother's Educations

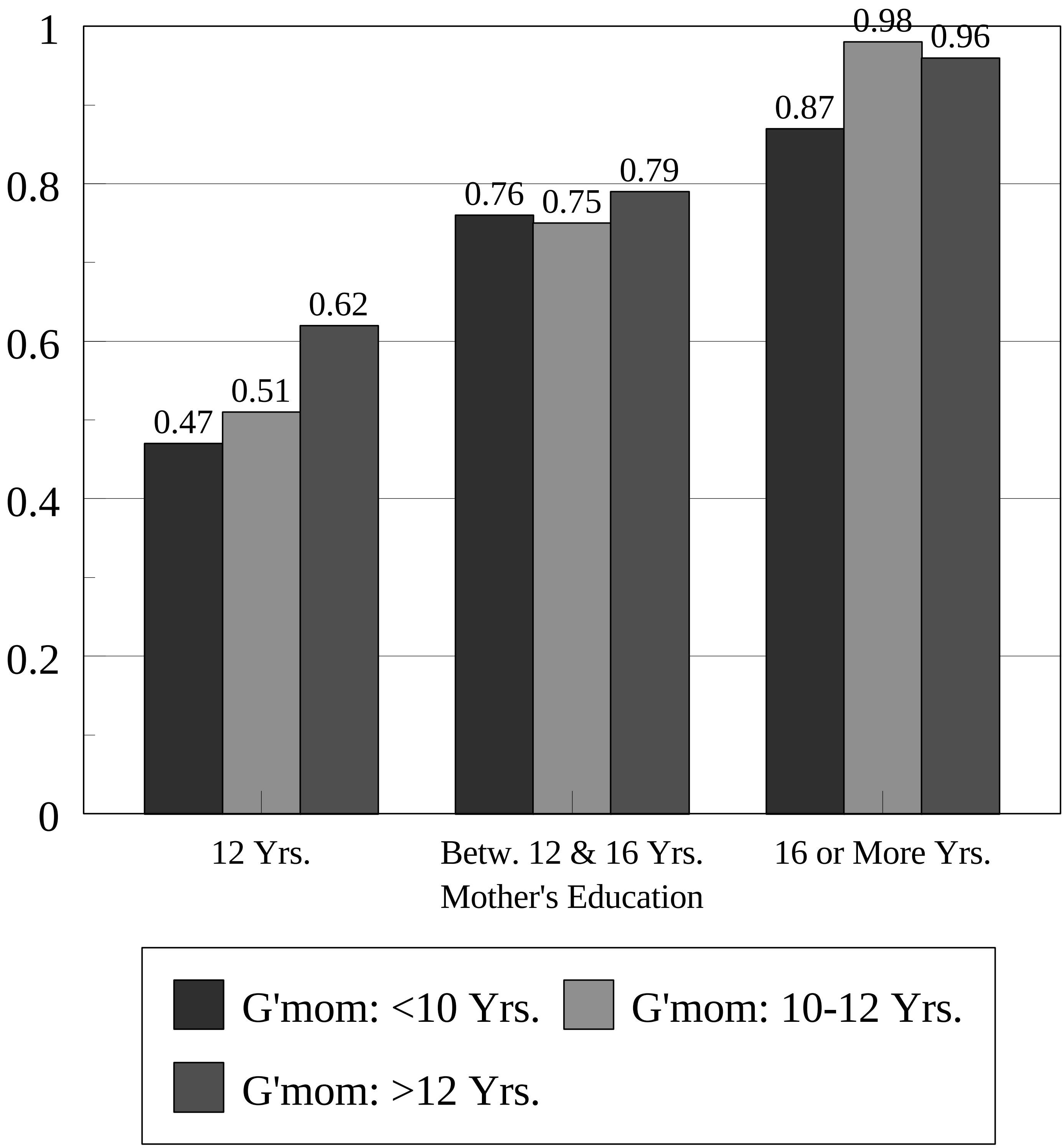
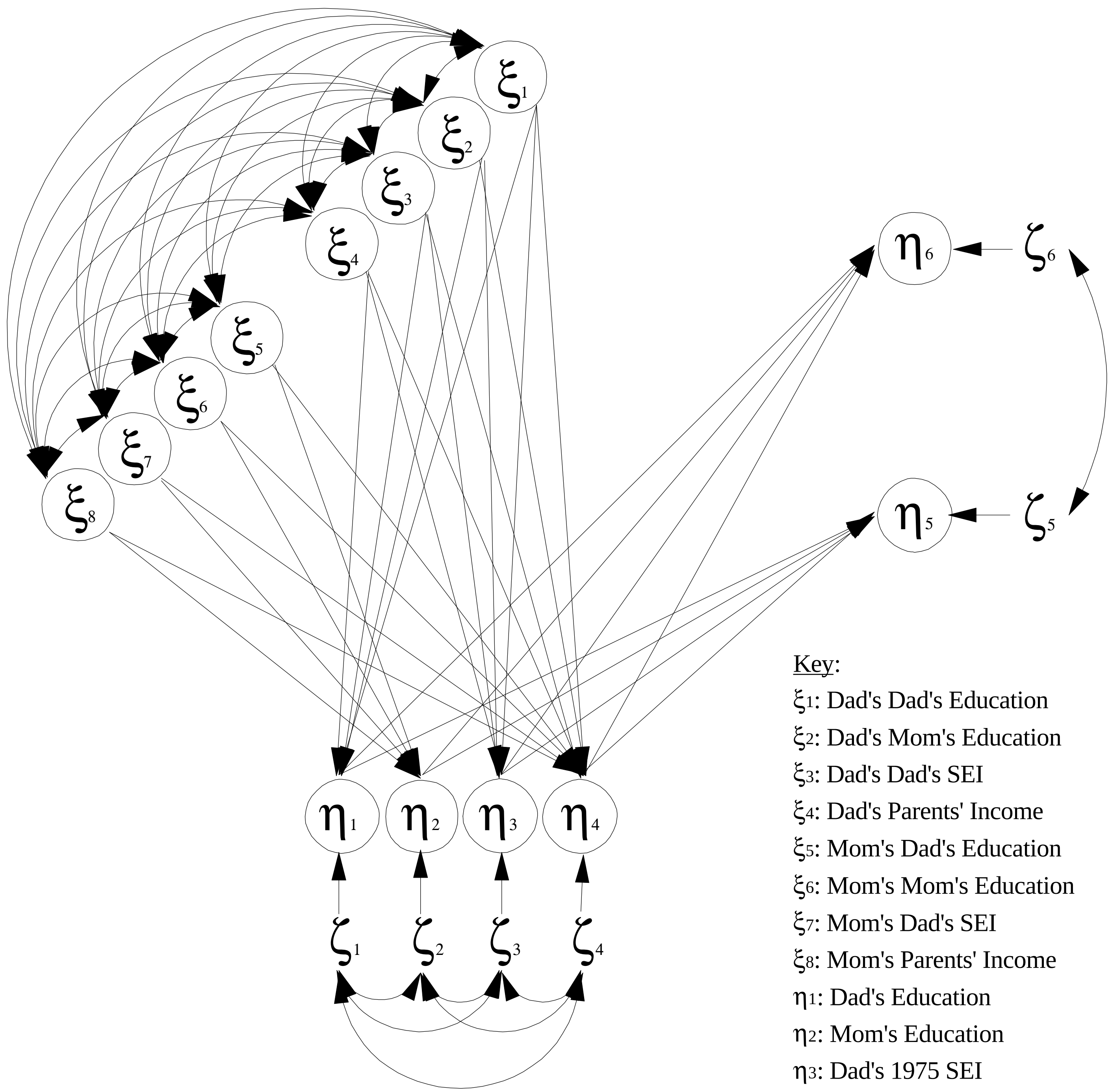


Figure 6.
"Fully Recursive" Specification of a Three Generation Model Without Lagged Effects



Key:
ξ_1: Dad's Dad's Education
ξ_2: Dad's Mom's Education
ξ_3: Dad's Dad's SEI
ξ_4: Dad's Parents' Income
ξ_5: Mom's Dad's Education
ξ_6: Mom's Mom's Education
ξ_7: Mom's Dad's SEI
ξ_8: Mom's Parents' Income
η_1: Dad's Education
η_2: Mom's Education
η_3: Dad's 1975 SEI
η_4: Dad's 1974 Income
η_5: Kid's Education
η_6: Kid's Occupation

Figure 7.
MIMIC Specification of a Three Generation
Model Without Lagged Effects

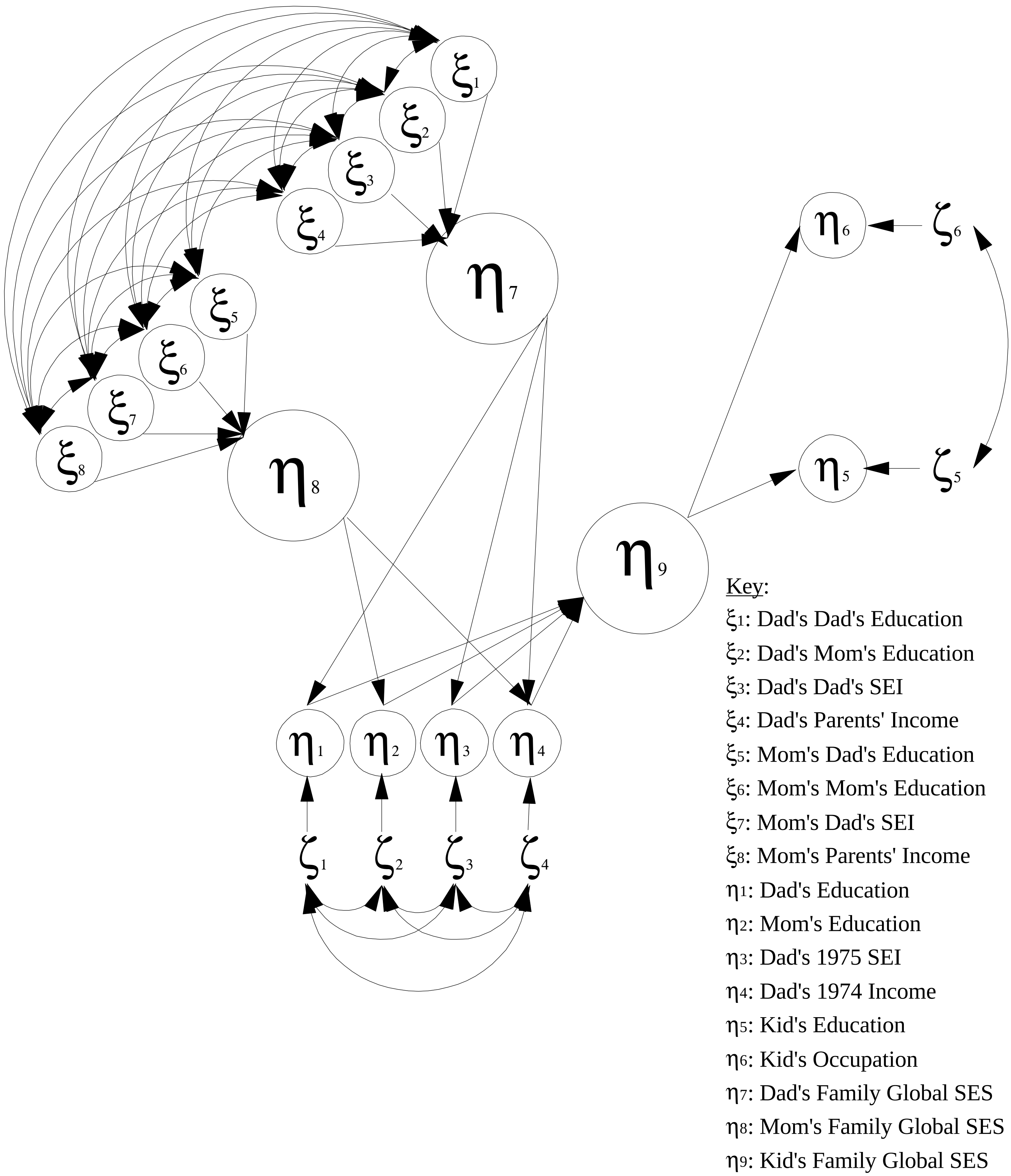
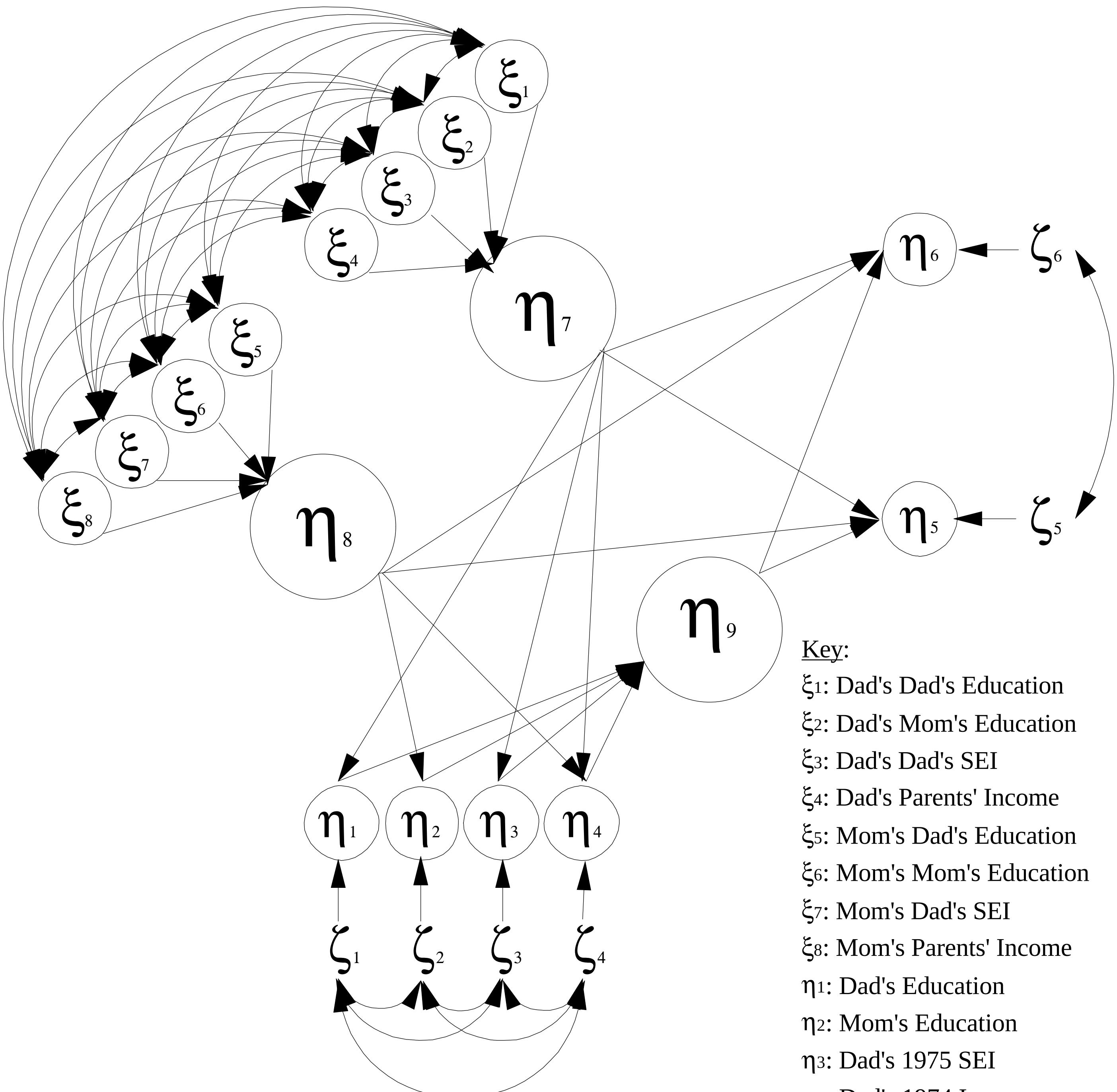


Figure 8.
MIMIC Specification of a Three Generation Model With Lagged Effects



<u>Key</u>:

ξ_1: Dad's Dad's Education
ξ_2: Dad's Mom's Education
ξ_3: Dad's Dad's SEI
ξ_4: Dad's Parents' Income
ξ_5: Mom's Dad's Education
ξ_6: Mom's Mom's Education
ξ_7: Mom's Dad's SEI
ξ_8: Mom's Parents' Income
η_1: Dad's Education
η_2: Mom's Education
η_3: Dad's 1975 SEI
η_4: Dad's 1974 Income
η_5: Kid's Education
η_6: Kid's Occupation
η_7: Dad's Family Global SES
η_8: Mom's Family Global SES
η_9: Kid's Family Global SES

Appendix A

The WLS "Couples" Data and Father's Earnings in 1974

The Wisconsin Longitudinal Study (WLS) is a long-term study of a one-third sample (N = 10,317) of the Wisconsin high school class of 1957. WLS respondents were interviewed in 1957 (their senior year of high school), in 1975, and again in 1992/1993. Because all members of the WLS sample have completed high school, and because they are all approximately the same age, it is not surprising that some WLS respondents married other respondents. In fact, we have found 103 opposite-sex pairs of WLS sample members who each responded to the 1975 survey and who shared an address and phone number in 1975. Further investigation revealed that in these cases, the male and female members of the pair grew up in different households and reported the same roster of children in 1975[1].

Validity of Cross-Reports

This unique subsample of WLS respondents presents an opportunity to test assumptions about the reliability of respondent's reports of their spouse's and their spouse's parents' characteristics. In the 1975 survey, we asked respondents to report the education and occupation of their current spouse, as well as the education and occupation of their current spouse's head of household. Using these "couples" data, we are able to compare respondent's reports of their spouse's and their spouse's head of household's characteristics with the spouse's own report of his or her characteristics and those of his or

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[1] Had members of the pair grown up in the same household, we would have concluded that they were siblings instead of spouses. The names of the children were the same in each roster. However, men appeared to have some difficulty with the years of their children's birth.

her head of household. For example, we are able to compare a husband's report of his wife's education to the wife's own report of her education; for the same couple, we are also able to compare the wife's report of her husband's education to her husband's own report of his education.

Table A1 reports some of these comparisons. Although we could have included other variables, we have limited the table to variables used in the present analysis. The final column in Table A1 reports the correlations between husbands' and wives' reports of the same construct. For example, the correlation between the husband's 1975 report of his father's education and the wife's 1975 report of her husband's father's education is .88. In all, the correlations between the cross-reports are quite high.

Construction of Father's Earnings in 1974

In 1975, respondents were asked to report their own and their spouse's wages, salaries, tips, non-farm self-employment income, and farm self-employment income. Separately for the respondent and spouse, these reports were added together and called "respondent's total 1974 earnings" (YRER74) and "spouse's total 1974 earnings" (YSER74). Finally, these two measures were summed to produce a variable called "1974 Family Earnings" (YFAM74). For each component of respondent's and spouse's earnings, we treated a missing value as a zero; that is, we treated refusals and reports of zero earnings equivalently. Until now, all reported research using 1975 WLS data has used these variables as measures of respondent's, spouse's, and family earnings in 1974.

In the couples data, described above, we were able to assess the validity of these aggregate measures of earnings. Unfortunately, we found that the correlation between the respondent's and the spouse's reports of total 1974 family income (as expressed in YFAM74) was very low, about 0.30. Closer analysis revealed that husbands and wives in the couples sample disagreed in many cases about whether the other spouse earned *any* wages, salaries, or self-employment income. That is, in a striking number of cases, the first spouse reported that he or she *did* make some money from a given source, but the other respondent said that the first spouse earned *nothing* from that source. In other cases, the first spouse reported that he or she *did not* make any money from a given source, but the other respondent said that the first spouse *did* earn money from that source. Our conclusion is that in many cases, respondents were politely refusing to answer earnings questions by claiming that they (or their spouse) earned no money from particular sources. In cases in which both members of the pair agreed about whether the husband (for example) earned *any* money from a given source, the correlation between the partners' reports of the *amount* that the husband earned from that source were quite high, on the order of 0.80.

Again, our conclusion is that the aggregate earnings measures in the 1975 WLS data are invalid due to "polite non-response." However, we believe that we are able to identify cases of polite "non-response" in the full sample: In our opinion, cases in which the respondent said that he or she worked for 10 or more weeks in 1974 but earned zero dollars are polite refusals. The same goes for spouses. In these cases, we have imputed a value for the respondent's (or the spouse's) earnings, based on the observed sample mean for people of the same gender, with the same level of schooling, and who work in the same major occupation group[2]. Table A2 presents these imputed values.

Table A3 compares the "new" and "old" versions of the aggregate 1974 earnings variables. The first line reports the number of cases which were affected by imputation. The second and third lines compare the number of reported "zero" earners to the number of cases still classified as "zero" earners after imputation. As the table shows, the process of imputation only slightly alters the means or standard deviations of the aggregate measures.

Table A3 also shows that even after imputation, in a large number of cases, women's earnings are classified as "zero." By construction, these entries pertain to women who worked in the labor force for fewer than 10 weeks in 1974. Because women's earnings are so often zero, we have decided to include only men's earnings in our main analyses. This decision is analogous to our decision not to use mother's occupation in the main analyses.

Our analyses of the "couples" data brought to light the invalidity of the aggregate measures of earnings as previously specified, and helped us to construct a more reliable set of measures. Analyses of these unique data also provide us with estimates of the error variance in the new father's 1974 earnings variable, which we use in the main analyses.

[2] We have also considered an even more elaborate imputation scheme which also considers labor supply factors and class of worker and incorporates a stochastic component in assigning imputed values to individual cases. However, we have found that the choice of imputation scheme makes almost no difference for our results: for example, for male respondents, the means and standard deviations of each of the respondent's 1974 earnings variables (however constructed) are identical to two significant digits, and the correlation between them is about .97.

Table A4 presents the results of a series of LISREL models which are designed to estimate the error variance of this measure. For convenience, we have also included measures of father's 1975 occupational status in the model; we could just as well have selected other variables. The object of the model is to estimate the error variance in husbands' and wives' reports of husbands' 1974 earnings in the couples data. The best-fitting specification of the model does not constrain these two error variances to be the same. Thus, in the main analyses, we use one estimate of error variance for male respondents and a different estimate for female respondents. The values of these error variances are reported in Table 5.

Table A1.
Descriptive Statistics for Variables in the Sample of 103 Pairs of Married 1975 WLS Respondents

	Wife's Report Mean	Wife's Report (SD)	Husband's Report Mean	Husband's Report (SD)	Correlation Between Reports
A. Grandfathers' Educations (N = 65 Pairs w/ Complete Data)					
Husband's Father's Education, 1957	-	-	11.29	(3.34)	-
Husband's Father's Education, 1975	11.11	(3.50)	10.85	(3.64)	0.88
Wife's Father's Education, 1957	10.34	(3.31)	-	-	-
Wife's Father's Education, 1975	10.52	(3.63)	10.37	(3.72)	0.90
B. Grandfathers' Occupations (N = 81 Pairs w/ Complete Data)					
Husband's Father's Occupation, Tax	-	-	29.09	(21.53)	-
Husband's Father's Occupation, 1975	33.66	(23.44)	34.88	(22.99)	0.80
Wife's Father's Occupation, Tax	38.63	(25.76)	-	-	-
Wife's Father's Education, 1975	40.40	(25.00)	39.90	(25.51)	0.86
C. Parents' Educations (N = 85 Pairs w/ Complete Data)					
Husband's Education, 1964	-	-	14.14	(2.50)	-
Husband's Education, 1975	13.86	(2.48)	13.94	(2.58)	0.95
Wife's Education, 1964	13.37	(1.78)	-	-	-
Wife's Education, 1975	13.11	(1.76)	13.31	(1.88)	0.92
D. Father's 1975 Occupation and Father's 1974 Earnings (N = 89 Pairs w/ Complete Data)					
Husband's 1975 Occupation, 1975	48.71	(24.14)	50.11	(24.05)	0.90
Husband's 1975 Occupation, 1992	-	-	50.94	(24.31)	-
ln(Husband's 1974 Earnings + $500)	9.64	(0.41)	9.73	(0.44)	0.82

Notes: (1) All variables pertaining to parents' fathers' educations or to the spouses' educations top-coded at 20 years; (2) All variables pertaining to the spouses' fathers' occupations coded on the Duncan SEI scale; (3) All reports of husbands' 1975 occupations coded on the Duncan SEI scale; (4) Full sample consists of 103 pairs of WLS respondents who were married to one another in 1975 and in which both husband and wife completed the 1975 interview; however, the "N" is different in each of the four parts of these analyses because the analysis samples are limited to cases with no missing data.

Table A2.
Occupation- and Education-Specific Means for Respondent's and Spouse's 1974 Earnings Variables

	Male Respondents (N=4038)			Female Spouses (N=1754)		
	Education			Education		
	12 Yrs.	13-15 Yrs.	16+ Yrs.	<13 Yrs.	13-15 Yrs.	16+ Yrs.
Upper Nonmanual	9.64	9.68	9.49	8.45	8.50	8.68
Lower Nonmanual	9.61	9.76	9.76	8.35	8.29	8.31
Upper Manual	9.53	9.66	9.75	8.51	(8.51)	(8.51)
Lower Manual	9.46	9.48	9.32	8.14	8.03	8.14
Farm	9.18	9.26	9.51	7.89	(7.89)	(7.89)

	Female Respondents (N=2673)			Male Spouses (N=3632)		
	Education			Education		
	12 Yrs.	13-15 Yrs.	16+ Yrs.	<13 Yrs.	13-15 Yrs.	16+ Yrs.
Upper Nonmanual	8.59	8.41	8.72	9.64	9.67	9.865
Lower Nonmanual	8.27	8.25	8.18	9.60	9.74	9.825
Upper Manual	8.32	(8.32)	(8.32)	9.52	9.62	9.691
Lower Manual	8.04	7.88	7.36	9.38	9.45	9.422
Farm	8.20	(8.20)	(8.20)	9.14	(9.14)	(9.14)

Notes: Occupation categories derived from Featherman and Hauser 1978, page 28. Figures represent the natural log of $500 plus the mean earnings for individuals in each cell with non-zero reported earnings. Parenthesized figures indicate that the cell N was less than 10. In these cases, the value was set equal to the value of the adjacent cell to the left.

Table A3.
Descriptive Statistics for New and Old 1974 Earnings Measures for Respondents and Spouses

	Full WLS Sample			Male Respondents			Female Respondents		
	1974 Family Earnings	1974 Resp. Earnings	1974 Spouse Earnings	1974 Family Earnings	1974 Resp. Earnings	1974 Spouse Earnings	1974 Family Earnings	1974 Resp. Earnings	1974 Spouse Earnings
Number of Cases Imputed	1233	700	749	422	256	235	811	444	515
Old Version: Number of Zeros	744	2402	2617	242	273	2061	502	2129	556
New Version: Number of Zeros	95	1702	1868	18	17	1826	77	1685	42
Old Version: Cases Missing	1203	1204	2314	680	681	1177	523	523	1137
New Version: Cases Missing	1196	1204	2314	673	681	1177	523	523	1137
Old Version: Mean	9.66	9.10	9.14	9.73	9.63	8.19	9.59	8.29	9.60
New Version: Mean	9.69	9.06	9.14	9.75	9.63	8.20	9.64	8.29	9.59
Old Version: Std. Deviation	(0.58)	(0.94)	(0.92)	(0.49)	(0.48)	(0.88)	(0.65)	(0.89)	(0.49)
New Version: Std. Deviation	(0.52)	(0.92)	(0.89)	(0.46)	(0.47)	(0.83)	(0.56)	(0.83)	(0.46)

Note: The "Old Versions" are the Total 1974 Family Earnings (YFAM74), the Total 1974 Respondent Earnings (YRER74), and the Total 1974 Spouse Earnings (YSER74) as they appear on SWL22d. The "New Versions" begin with the "Old Versions," but for cases in which the value for an earnings variable is zero, and in which the individual(s) in question reported employment in 1974, a value was imputed for the "New Version" based on the within-sample occupation- and education-specific mean for that earnings variable (See Table A2). Both the "Old" and "New" versions of earnings variables are expressed as the natural log of $500 plus the raw value for each variable.

Table A4.
Wife's and Husband's Reports of Husband's 1975 Occupation and Husband's 1974 Earnings: Correlation Matrix and LISREL Models

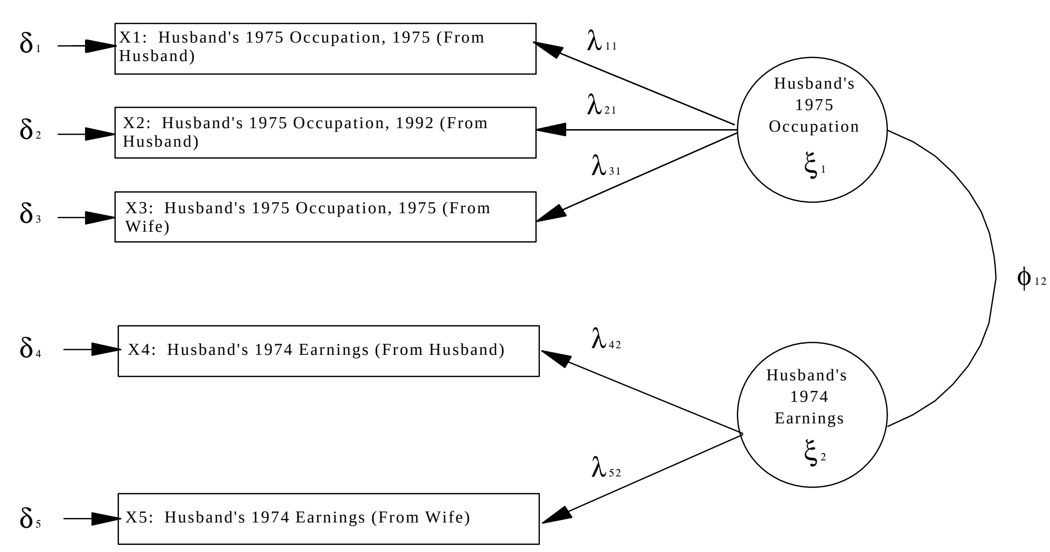
A. Correlation Matrix

	(1)	(2)	(3)	(4)	(5)
(1) Husband's 1975 Occupation, 1975 (Husband)	1.0000				
(2) Husband's 1975 Occupation, 1992 (Husband)	0.8190	1.0000			
(3) Husband's 1975 Occupation, 1975 (Wife)	0.8992	0.8174	1.0000		
(4) Father's 1974 Earnings, 1974 (Husband)	0.5273	0.5275	0.5663	1.0000	
(5) Father's 1974 Earnings, 1974 (Wife)	0.5432	0.5760	0.6008	0.8187	1.0000

B. Fit Statistics for Various Measurement Models

Model Specification	Chi-Sq.	df	N	BIC
(a) No Constraints on LX's, TD's Restricted	3.69	4	89	-14.265
(b) LX(1,1) = LX(3,1)	3.78	5	89	-18.663
(c) Same as (b), with TD(1) = TD(3)	3.92	6	89	-23.012
(d) Same as (c), with TD(1,4) Free	3.85	5	89	-18.593
(e) Same as (c), with TD(3,5) Free	3.46	5	89	-18.983

C. Diagram of Model (c)



Best Fitting Model: LX(1,1) = LX(3,1) and TD(1) = TD(3).

Appendix B

Specification and Fit of Auxiliary Measurement Models

In this appendix we describe in greater detail the specification and results of a series of measurement models which were designed to produce estimates of error variance for variables included in the primary analyses. We begin by considering variables pertaining to father's family of origin. Next, we consider variables pertaining to mother's family of origin. Finally, we consider variables pertaining to the selected child's family of origin.

Table B1 describes the variables included in the measurement model for father's family of origin. All of the variables are defined as they were in Table 2, which considered all variables in the full sample. The analysis sample is temporarily restricted to cases with no missing data on these variables. Thus, the sample now includes 1,231 men for whom there is no missing data on any of eight variables and 1,574 women for whom there is no missing data on either of two variables[3]. In addition to the distinction between male and female respondents, we have split the sample by the gender of the selected child. Table B2 presents the covariance matrices for these eight variables in each of the four subsamples. For male respondents (regardless of the gender of the child), the matrices are complete; there are no missing moments. However, among female respondents, we

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[3] The distinction between data from male and from female respondents is non-trivial. In the Wisconsin cohort, women married earlier than men and to older husbands, while men married later than women and to younger wives. Thus, the children of female respondents are older than those of male respondents, and this accounts for the larger number of children of female respondents than of male respondents in the three generation sample.

observe only one non-zero off-diagonal moment and two diagonal moments. In other words, since six of the eight variables pertaining to father's family of origin are not observed for female respondents, most of the moments in the matrices are missing. Following Allison (1987) and Jöreskog and Sörbom (1989), we arbitrarily set the variances of missing variables to 1, the means and standard deviations of missing variables to zero, and the covariances between missing variables to zero.

Figure B1 depicts the measurement model for father's family of origin and shows the pattern of missing data for female respondents. In the figure, X_1 through X_8 correspond exactly to X_1 through X_8 in Table 2 and Table B1; ξ_1 through ξ_4 are latent constructs representing paternal grandfather's education, paternal grandmother's education, paternal grandfather's occupational status, and paternal grandparents' income, respectively. In a constrained two-group model, with male respondents in one group and female respondents in the other, we can use LISREL to estimate the parameters of this model for both groups. In a nutshell, if the data are consistent with the hypothesis that over-identified parameters of the model are invariant across groups, then we assume that other parameters are invariant as well.

Table B3 describes the fit of a series of these models to the data[4]. Model A for selected sons and Model B for selected daughters specify that (the covariance matrix of ξ), λ_x (a matrix of factor loadings), and $^{\delta}$ (the covariance matrix of δ) are invariant across

[4] In this and subsequent tables that report fit statistics for models utilizing incomplete data, we have reported the "adjusted degrees of freedom" instead of the degrees of freedom reported by LISREL. The "adjustment" consists of subtracting the number of missing diagonal and off-diagonal elements in each matrix in each group of the model from the degrees of freedom reported by LISREL.

groups (that is, across male and female respondents). For male selected children, this model fits well: *bic* = -48. For female selected children, the model fits less well. Model C for selected sons and Model D for selected daughters add the additional constraint that the means of observed variables are invariant across groups; that is, the models constrain the means of X_2 and X_6 in the male sample to equal the means of X_2 and X_6 in the female sample. This says that in the population, the measurement model fits and has the same parameters among male and female respondents. With the means constrained, the models fit even better for both male and female selected children; *bic* is highly negative for each group, both in absolute terms and relative to the first set of models. Finally, Model E for selected sons and Model F for selected daughters allow the error variances in the 1975 measure of paternal grandfathers' education to differ between male and female respondents; a comparison of the variance of this variable for male and female respondents led us to suspect that there is more error variance in this measure among female respondents. Removing this constraint slightly improves the fit of the models both for male and female selected children.

Next, we estimated this same set of models using all four groups. That is, we tested the hypothesis that the parameters of the model (variously specified) are the same among male and female selected children as well as among male and female respondents. Model G specifies that , λ_x, and $^{\delta}$ (but not the means) are invariant across all four groups. Model H adds the constraint that the means of the variables are invariant across the four groups. Finally, Model I allows the error variances in the 1975 measure of paternal grandfather's education to differ between male and female respondents (but not between male and female selected children). All of the models fit satisfactorily, but Model I fits best, with *bic* = −281.54. Substantively, these findings suggest that the parameters of the measurement model for father's family of origin are invariant across the four subsample groups, except the error variances in the 1975 paternal grandfather's education variable differ between male and female respondents: Mothers' reports of their husbands' fathers' years of schooling are less reliable than their husbands' reports[5].

Table B4 describes the variables included in the measurement model for the mother's family of origin. All of the variables are defined as in Table 2. The analysis sample is again restricted to cases with no missing data on these background variables. Thus, the sample now includes 1,307 men for whom there is no missing data on either of two variables and 1,829 women for whom there is no missing data on any of eight variables. Again, the sample is split by the gender of the selected child. Table B5 presents the covariance matrices for these eight variables in each of the four subsamples. Here, the matrices are full among female respondents and nearly empty among male respondents; of course, it was the other way around when we considered the father's family of origin.

Figure B2 depicts the measurement model for mother's family of origin and shows the pattern of missing data for male respondents. In the figure, X_9 through X_{16} correspond exactly to X_9 through X_{16} in Table 2 and Table B4; ξ_5 through ξ_8 are latent constructs representing maternal grandfather's education, maternal grandmother's education, maternal grandfather's occupational status, and maternal grandparents' income, respectively.

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[5] With no evidence one way or the other, Mukherjee (1954) also wondered about the effects of differential reliability among husbands and wives in reports of husbands' father's occupation in the British mobility study.

We estimated the same series of measurement models for the mother's family of origin as we did for the father's family of origin. Table B6 shows the fit of these models, which parallel those of the models pertaining to the father's family of origin. Here again, we prefer Model I, a four group model that constrains all of the parameters of the model, except the error variances in the 1975 measure of the grandfather's education, to be the same across all four groups.

The final series of measurement models pertains to the selected child's family of origin[6]. Table B7 describes the variables in these models, which are defined as in Table 2. The analysis sample is now restricted to cases with no missing data on these variables. Thus, the sample now includes 1,458 men for whom there is no missing data on any of five variables and 2,089 women for whom there is no missing data on any of four variables. Once again, the sample is split by the gender of the selected child. Table B8 presents the covariance matrices for these six variables in each of the four subsamples. From Tables B7 and B8, the reader can see that the situation with regard to missing data in this series of measurement models is more complicated than in the previous models; specifically, there are missing variables in the matrices for *both* men and women. For male respondents, we do not observe the first (1964) measure of mother's education, and for

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[6] Although we include father's 1974 earnings in the full three generation models, we have excluded this variable from the measurement model for the selected child's family of origin because we have only one measure of it. In the full model, we borrow an estimate of the error variance of father's earnings from separate analyses carried out with a sample of 103 pairs of WLS respondents who were married to one another at the time of the 1975 survey. In this unique subsample, we obtain two measures of father's 1974 earnings, one from the husband and one from the wife. Appendix A describes this sample and explains how we estimated the error variance in father's 1974 earnings.

female respondents, we do not observe the first (1964) measure of father's education or the second (1992/1993) measure of father's occupational status. Although perhaps more difficult to conceptualize, this pattern of missing data is no more problematic within LISREL than the simpler pattern of missing data observed in earlier measurement models. As in the earlier matrices, we have set the variances of missing variables in each matrix to 1, the means and standard deviations of missing variables to zero, and the covariances between missing variables to zero.

Figure B3 depicts the measurement model for selected child's family of origin, and makes clear the disparate patterns of missing data for male and female respondents. In the figure, Y_1 through Y_6 correspond exactly to Y_1 through Y_6 in Table 2 and Table B7; η_1 through η_3 are latent constructs representing the father's education, the mother's education, and the father's occupational status, respectively.

Table B9 presents the results of a series of measurement models pertaining to the selected child's family of origin. Model A for sons and Model B for daughters specify that (the covariance matrix of ζ), λ_y (a matrix of factor loadings), and $^{\epsilon}$ (the covariance matrix of ϵ) are invariant across groups (that is, across male and female respondents). For male and female selected children, this models fit quite well: *bic* = -62 for sons and *bic* = -61 for daughters. Model C for selected sons and Model D for selected daughters add the constraint that the means of observed variables are invariant across groups; that is, the models constrain the means of Y_2, Y_4, and Y_5 in the sample of male respondents to equal the means of Y_2, Y_4, and Y_5 in the sample of female respondents. This assumes that the models are the same in the population for male and female respondents, and it pools all of the observed data. For both male and female selected children, the models with this additional constraint on the means fit better than the model without constrained means.

Next, we estimated this same set of models across all four groups. That is, we tested the hypothesis that the parameters of the model (variously specified) are the same among male and female selected children as well as among male and female respondents. Model E specifies that , λ_y, and $^{\epsilon}$ (but not the means) are invariant across all four groups. Model F adds the constraint that the means of the variables are invariant across the four groups. In short, the final model fits best: We conclude that the best specification of the measurement model for the selected child's family of origin constrains all of the parameters of the model, including the means, to be equal across all four groups.

Table B1.
Source, Coding, and Descriptive Statistics for Variables
in the Father's Family of Origin Measurement Model Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				N=646	N=585	N=801	N=773
X1	Paternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	10.21 (3.00)	10.25 (3.07)	-	-
X2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	9.82 (2.73)	10.08 (2.99)	10.11 (3.35)	10.12 (3.53)
X3	Paternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	10.58 (2.83)	10.47 (2.83)	-	-
X4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.57 (2.48)	10.60 (2.55)	-	-
X5	Paternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	30.55 (22.42)	29.12 (20.73)	-	-
X6	"	'75 Survey	Duncan SEI of Head of Household in 1957	33.74 (22.69)	33.61 (22.62)	35.03 (23.52)	32.98 (22.88)
X7	Paternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	8.66 (0.59)	8.62 (0.60)	-	-
X8	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	8.62 (0.58)	8.58 (0.60)	-	-

Table B2.

Covariance Matrices, Standard Deviations, and Means of Variables in the Father's Family of Origin Measurement Model Samples

Male Respondent, Male Selected Child (N=646)

	X1	X2	X3	X4	X5	X6	X7	X8
X1	9.006							
X2	6.306	7.426						
X3	4.013	2.847	8.032					
X4	2.816	2.865	5.477	6.150				
X5	31.649	27.907	18.086	15.938	502.836			
X6	33.223	30.860	19.731	17.284	366.831	514.655		
X7	0.693	0.544	0.507	0.411	6.270	6.099	0.353	
X8	0.617	0.473	0.439	0.334	5.898	5.516	0.302	0.336
SD	3.001	2.725	2.834	2.480	22.424	22.686	0.594	0.580
Mean	10.214	9.824	10.576	10.574	30.545	33.741	8.663	8.617

Male Respondent, Female Selected Child (N=585)

	X1	X2	X3	X4	X5	X6	X7	X8
X1	9.450							
X2	7.446	8.964						
X3	4.440	3.896	8.020					
X4	3.518	3.929	5.888	6.513				
X5	27.656	27.054	14.284	14.305	429.733			
X6	34.736	34.421	18.512	17.443	317.660	511.574		
X7	0.487	0.496	0.202	0.328	5.861	6.502	0.361	
X8	0.444	0.433	0.351	0.319	5.348	5.750	0.312	0.358
SD	3.074	2.994	2.832	2.552	20.730	22.618	0.601	0.598
Mean	10.251	10.075	10.468	10.603	29.121	33.607	8.620	8.578

Female Respondent, Male Selected Child (N=801)

	X1	X2	X3	X4	X5	X6	X7	X8
X1	1.000							
X2	0.000	11.189						
X3	0.000	0.000	1.000					
X4	0.000	0.000	0.000	1.000				
X5	0.000	0.000	0.000	0.000	1.000			
X6	0.000	44.087	0.000	0.000	0.000	553.332		
X7	0.000	0.000	0.000	0.000	0.000	0.000	1.000	
X8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
SD	0.000	3.345	0.000	0.000	0.000	23.523	0.000	0.000
Mean	0.000	10.109	0.000	0.000	0.000	35.031	0.000	0.000

Female Respondent, Female Selected Child (N=773)

	X1	X2	X3	X4	X5	X6	X7	X8
X1	1.000							
X2	0.000	12.447						
X3	0.000	0.000	1.000					
X4	0.000	0.000	0.000	1.000				
X5	0.000	0.000	0.000	0.000	1.000			
X6	0.000	43.268	0.000	0.000	0.000	523.540		
X7	0.000	0.000	0.000	0.000	0.000	0.000	1.000	
X8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
SD	0.000	3.528	0.000	0.000	0.000	22.881	0.000	0.000
Mean	0.000	10.115	0.000	0.000	0.000	32.980	0.000	0.000

Key:
X1= Paternal Grandfather's Education, 1957
X2= Paternal Grandfather's Education, 1975
X3= Paternal Grandmother's Education, 1957
X4= Paternal Grandmother's Education, 1975
X5= Paternal Grandfather's Occupational Status, Tax Records
X6= Paternal Grandfather's Occupational Status, 1975
X7= Paternal Grandparents' Income (3 Year Avg.), Tax Records
X8= Paternal Grandparents' Income (1 Year), Tax Records

Table B3.
Specifications and Fit Statistics for Measurement Models Pertaining to Father's Family of Origin
(See Figure B1 for Diagram of Model)

	Description of Model	Sample Composition	Sample Size	Adjusted Degrees of Freedom	Chi-Square	BIC
Two Group Models						
A.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, and TD Constrained Across Matrices	Male Selected Kids	1447	23	119.24	-48.14
B.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, and TD Constrained Across Matrices	Female Selected Kids	1358	23	159.18	-6.74
C.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices (Means Constrained to be Equal)	Male Selected Kids	1447	25	122.32	-59.61
D.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices (Means Constrained to be Equal)	Female Selected Kids	1358	25	159.75	-20.59
E.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Male Selected Kids	1447	24	109.54	-65.11
F.	Father's Matrix Complete, Mother's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Female Selected Kids	1358	24	147.91	-25.22
Four Group Models						
G.	Father's Matrices Complete, Mother's Matrices Incomplete; PH, LX, and TD Constrained Across All Matrices	Male and Female Selected Kids	2805	68	322.13	-217.73
H.	Father's Matrices Complete, Mother's Matrices Incomplete; PH, LX, TD, and TX Constrained Across All Matrices (Means Constrained to be Equal)	Male and Female Selected Kids	2805	76	335.30	-268.08
I	Father's Matrices Complete, Mother's Matrices Incomplete; PH, LX, TD, and TX Constrained Across All Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Male and Female Selected Kids	2805	75	313.90	-281.54

Table B4.
Source, Coding, and Descriptive Statistics for Variables
in the Mother's Family of Origin Measurement Model Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				N=682	N=625	N=941	N=888
X9	Maternal Grandfather's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.18 (3.14)	10.00 (2.92)
X10	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	10.15 (3.34)	10.41 (3.33)	9.97 (2.92)	9.81 (2.73)
X11	Maternal Grandmother's Educational Attainment	'57 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.57 (2.95)	10.42 (2.90)
X12	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	10.55 (2.57)	10.41 (2.50)
X13	Maternal Grandfather's Occupational Status	Tax Records	Duncan SEI of Grandfather's Occupation in 1957 or Closest Year Available	-	-	31.18 (22.38)	30.65 (21.64)
X14	"	'75 Survey	Duncan SEI of Head of Household in 1957	34.10 (22.36)	36.76 (23.50)	34.50 (22.94)	33.96 (22.31)
X15	Maternal Grandparents' Income	Tax Records	Log ($500 + Avg. of Grandparents' Income for 3 Years Between 1957 and 1960) (Top-Coded at $50,000)	-	-	8.65 (0.60)	8.64 (0.57)
X16	"	Tax Records	Log ($500 + Grandparents' Income in 1 Year Between 1957 and 1960) (Top-Coded at $50,000)	-	-	8.61 (0.60)	8.59 (0.57)

Table B5.

Covariance Matrices, Standard Deviations, and Means of Variables in the Mother's Family of Origin Measurement Model Samples

Male Respondent, Male Selected Child (N=682)

	X9	X10	X11	X12	X13	X14	X15	X16
X9	1.000							
X10	0.000	11.176						
X11	0.000	0.000	1.000					
X12	0.000	0.000	0.000	1.000				
X13	0.000	0.000	0.000	0.000	1.000			
X14	0.000	37.434	0.000	0.000	0.000	499.746		
X15	0.000	0.000	0.000	0.000	0.000	0.000	1.000	
X16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
SD	0.000	3.343	0.000	0.000	0.000	22.355	0.000	0.000
Mean	0.000	10.154	0.000	0.000	0.000	34.104	0.000	0.000

Male Respondent, Female Selected Child (N=625)

	X9	X10	X11	X12	X13	X14	X15	X16
X9	0.000							
X10	0.000	11.069						
X11	0.000	0.000	0.000					
X12	0.000	0.000	0.000	0.000				
X13	0.000	0.000	0.000	0.000	0.000			
X14	0.000	40.732	0.000	0.000	0.000	552.203		
X15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
X16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SD	0.000	3.327	0.000	0.000	0.000	23.499	0.000	0.000
Mean	0.000	10.406	0.000	0.000	0.000	36.760	0.000	0.000

Female Respondent, Male Selected Child (N=941)

	X9	X10	X11	X12	X13	X14	X15	X16
X9	9.853							
X10	7.335	8.497						
X11	4.552	3.902	8.703					
X12	3.674	3.931	6.143	6.605				
X13	35.947	33.604	22.507	21.350	500.864			
X14	40.480	38.273	24.502	21.334	375.671	526.152		
X15	0.752	0.680	0.463	0.436	6.185	6.572	0.361	
X16	0.723	0.629	0.435	0.402	5.618	6.041	0.324	0.360
SD	3.139	2.915	2.950	2.570	22.380	22.938	0.601	0.600
Mean	10.175	9.968	10.574	10.547	31.177	34.497	8.646	8.606

Female Respondent, Female Selected Child (N=888)

	X9	X10	X11	X12	X13	X14	X15	X16
X9	8.550							
X10	6.252	7.442						
X11	3.433	3.035	8.387					
X12	2.706	2.906	6.051	6.240				
X13	27.594	24.304	16.194	13.639	468.290			
X14	32.016	29.012	19.650	16.777	304.426	497.513		
X15	0.474	0.408	0.378	0.321	5.109	5.078	0.330	
X16	0.422	0.406	0.290	0.288	4.919	4.785	0.278	0.320
SD	2.924	2.728	2.896	2.498	21.640	22.305	0.574	0.566
Mean	10.000	9.809	10.421	10.407	30.652	33.956	8.637	8.590

Key:
X9= Maternal Grandfather's Education, 1957
X10= Maternal Grandfather's Education, 1975
X11= Maternal Grandmother's Education, 1957
X12= Maternal Grandmother's Education, 1975
X13= Maternal Grandfather's Occupational Status, Tax Records
X14= Maternal Grandfather's Occupational Status, 1975
X15= Maternal Grandparents' Income (3 Year Avg.), Tax Records
X16= Maternal Grandparents' Income (1 Year), Tax Records

Table B6.
Specifications and Fit Statistics for Measurement Models Pertaining to Mother's Family of Origin
(See Figure B2 for Diagram of Model)

	Description of Model	Sample Composition	Sample Size	Adjusted Degrees of Freedom	Chi-Square	BIC
Two Group Models						
A.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, and TD Constrained Across Matrices	Male Selected Kids	1623	23	119.34	-50.68
B.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, and TD Constrained Across Matrices	Female Selected Kids	1513	23	93.42	-74.98
C.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices (Means Constrained to be Equal)	Male Selected Kids	1623	25	122.13	-62.67
D.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices (Means Constrained to be Equal)	Female Selected Kids	1513	25	108.31	-74.74
E.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Male Selected Kids	1623	24	93.14	-84.27
F.	Mother's Matrix Complete, Father's Matrix Incomplete; PH, LX, TD, and TX Constrained Across Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Female Selected Kids	1513	24	87.57	-88.15
Four Group Models						
G.	Mother's Matrix Complete, Father's Matrices Incomplete; PH, LX, and TD Constrained Across All Matrices	Male and Female Selected Kids	3136	68	267.69	-279.76
H.	Mother's Matrix Complete, Father's Matrices Incomplete; PH, LX, TD, and TX Constrained Across All Matrices (Means Constrained to be Equal)	Male and Female Selected Kids	3136	76	280.31	-331.54
I.	Mother's Matrix Complete, Father's Matrices Incomplete; PH, LX, TD, and TX Constrained Across All Matrices; TD(2,2) Unconstrained (Means Constrained to be Equal)	Male and Female Selected Kids	3136	75	236.01	-367.79

Table B7.
Source, Coding, and Descriptive Statistics for Variables
in the Selected Child's Family of Origin Measurement Model Sample, by Gender of the Respondent and the Selected Child

				Male Respondents		Female Respondents	
	Label	Source	Description, Coding	Male Child Mean/(SD)	Female Child Mean/(SD)	Male Child Mean/(SD)	Female Child Mean/(SD)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				N=756	N=702	N=1073	N=1016
Y1	Father's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	13.67 (2.07)	13.72 (2.13)	-	-
Y2	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	13.52 (2.27)	13.57 (2.33)	13.16 (2.59)	13.18 (2.59)
Y3	Mother's Educational Attainment	'64 Survey	Years of School Completed (Top-Coded at 20 Years)	-	-	13.06 (1.54)	13.08 (1.55)
Y4	"	'75 Survey	Years of School Completed (Top-Coded at 20 Years)	12.65 (1.63)	12.68 (1.67)	12.78 (1.50)	12.79 (1.49)
Y5	Father's Occupational Status	'75 Survey	Duncan SEI of Father's Current or Most Recent Occupation in 1975	49.65 (23.09)	48.31 (23.26)	46.20 (24.03)	47.25 (24.02)
Y6	"	'92 Survey	Duncan SEI of Father's Current Occupation in 1975	48.70 (23.67)	48.71 (24.05)	-	-
Y7	Father's Total 1974 Earnings	'75 Survey	Log ($500 + Father's Total Earnings in 1974) (Top-Coded at $75,000)	9.70 (0.43)	9.66 (0.43)	9.63 (0.49)	9.64 (0.47)

Figure B1.
Diagram for Measurement Model Pertaining to
Father's Family of Origin

(See Table B1 for Variable Definitions, Table B2 for Covariance Matrices)

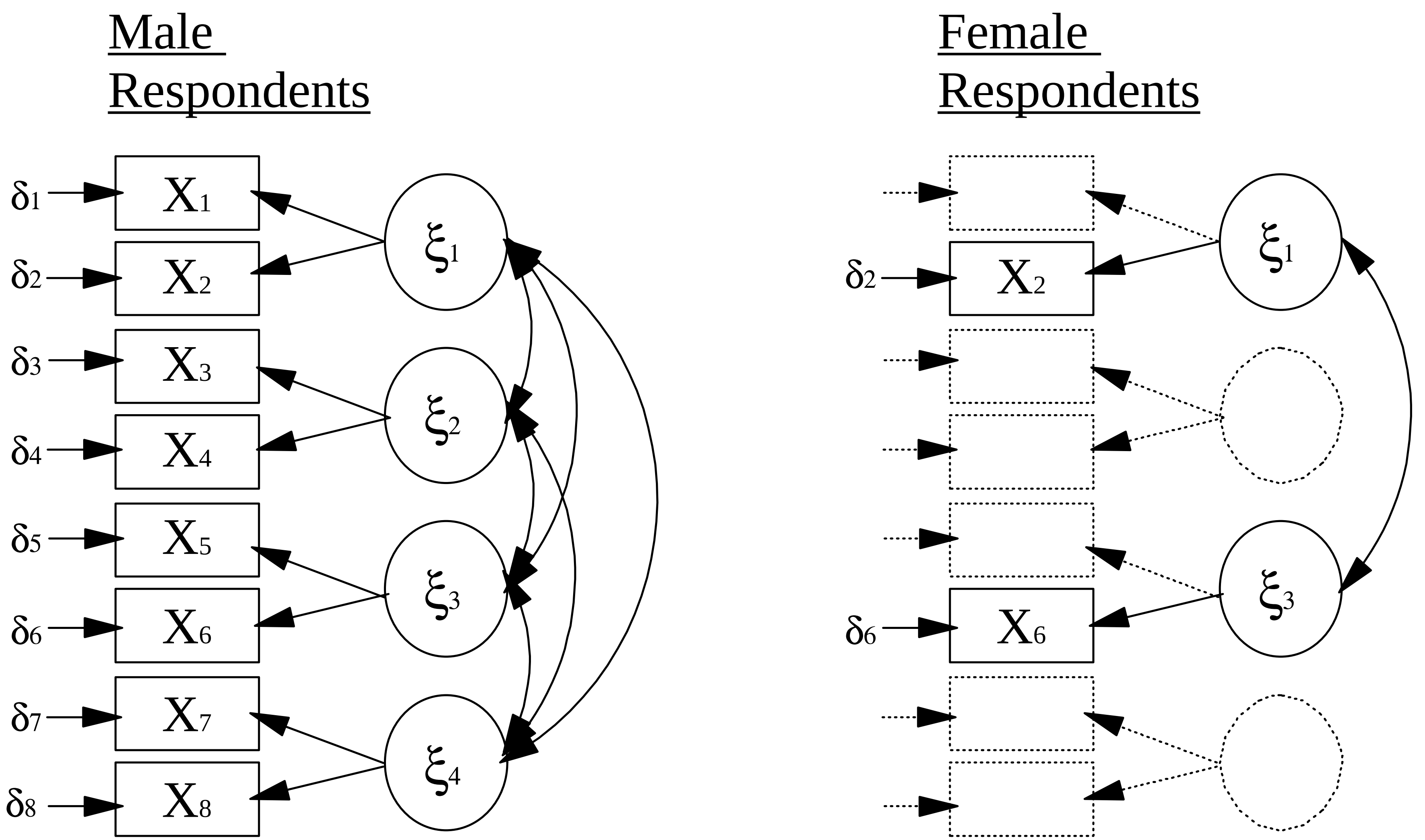


Figure B2.
Diagram for Measurement Model Pertaining to
Mother's Family of Origin

(See Table B4 for Variable Definitions, Table B5 for Covariance Matrices)

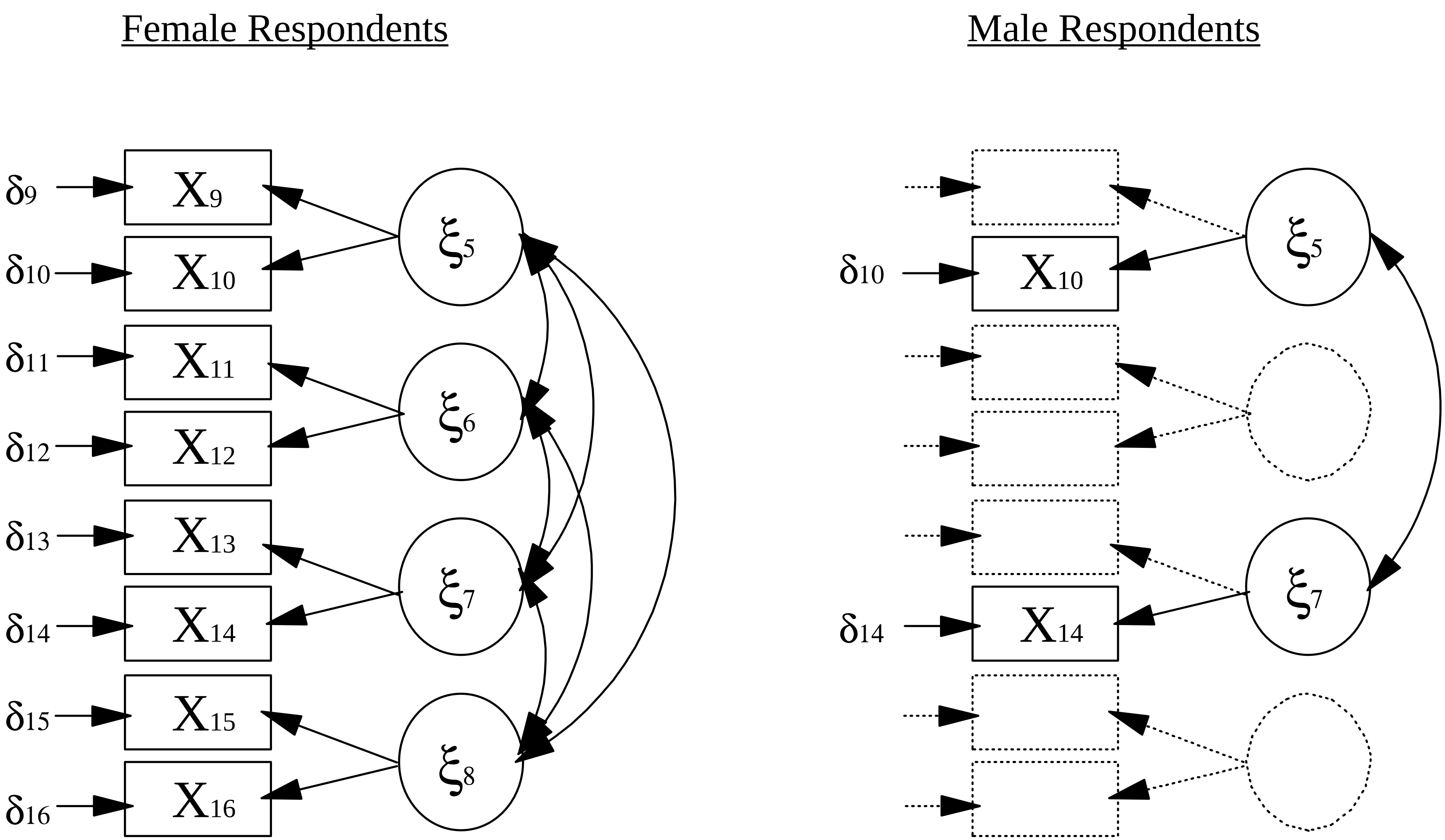
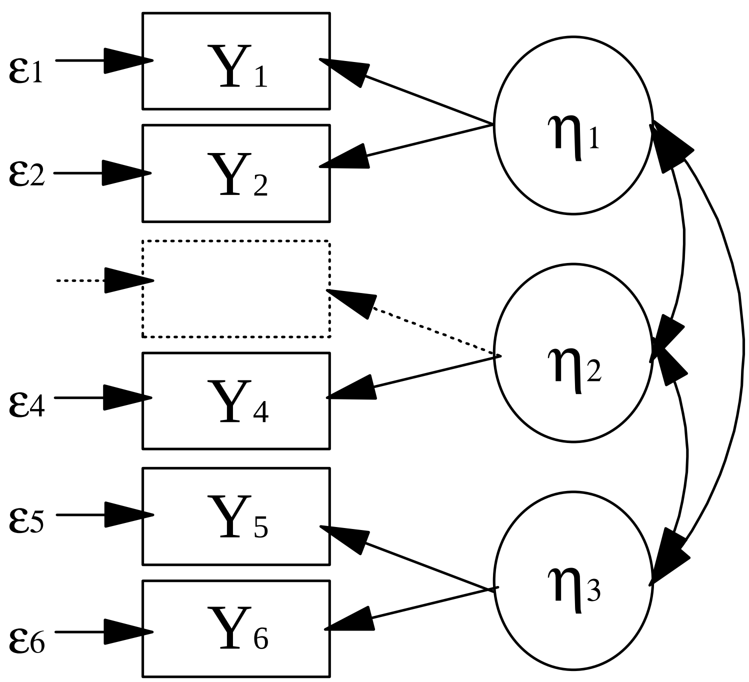


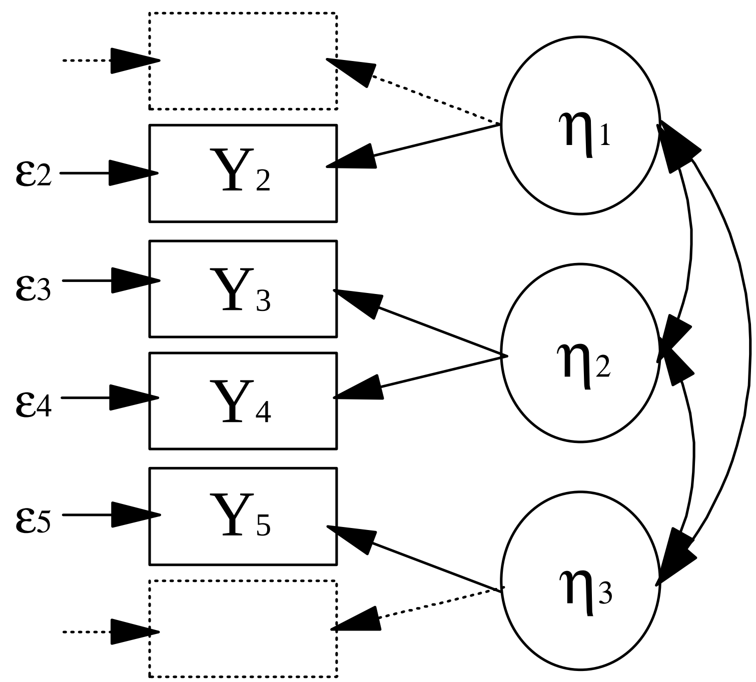
Figure B3.
Diagram for Measurement Model Pertaining to
Selected Child's Family of Origin

(See Table B7 for Variable Definitions, Table B8 for Covariance Matrices)

Male Respondents



Female Respondents



Center for Demography and Ecology
University of Wisconsin
1180 Observatory Drive Rm. 4412
Madison, WI 53706-1393
U.S.A.
608/262-2182
FAX 608/262-8400
comments to: warren@ssc.wisc.edu
requests to: cdepubs@ssc.wisc.edu