

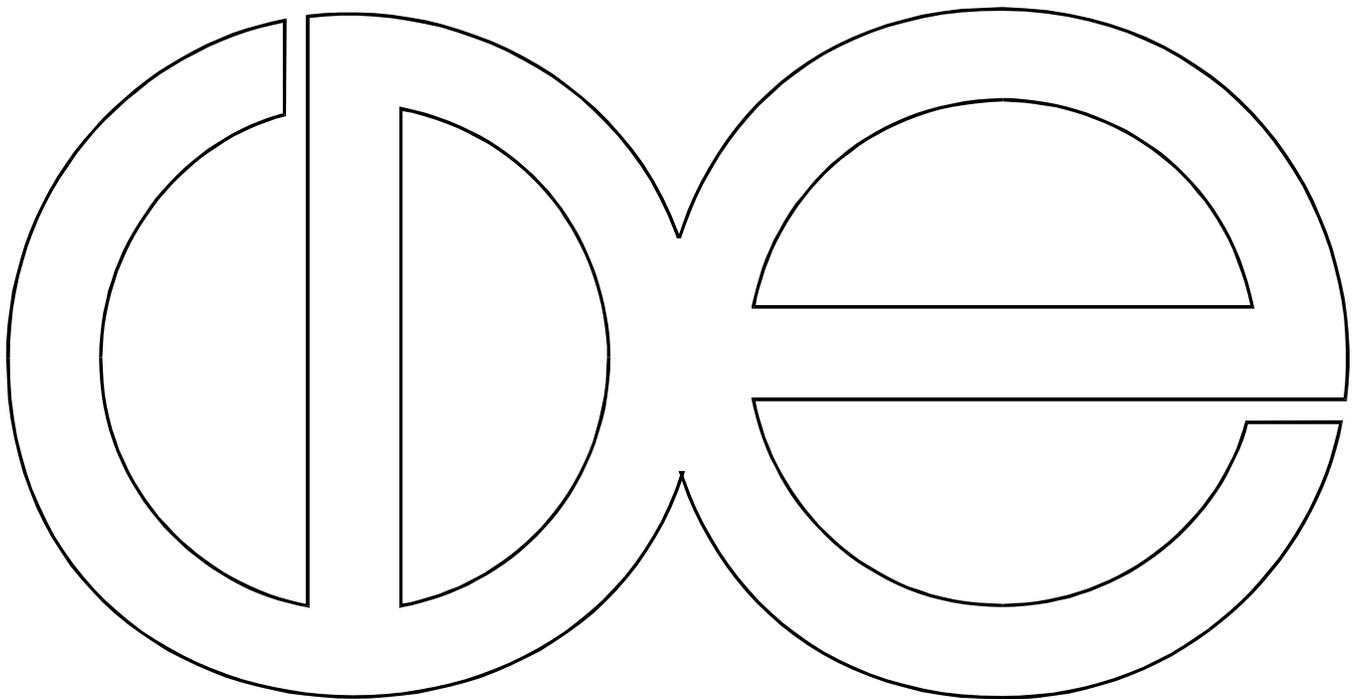
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**As We Age:
The Wisconsin Longitudinal Study, 1957-2001**

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**AS WE AGE:
A REVIEW OF THE WISCONSIN LONGITUDINAL STUDY,
1957-2001***

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ABSTRACT

The authors review the Wisconsin Longitudinal Study (WLS) across its history of more than 40 years. The WLS began as a study of post-secondary aspirations and educational attainment among Wisconsin high school graduates of 1957, but it has become a major, long-term study of the life-course and aging. The most visible contributions of the WLS to date have been theories and models of the process of stratification. We review those findings and criticisms of them, especially the claim that we ignore social structures and their effects. These criticisms have often been vague or have lacked empirical support. In research on stratification, the concept of social structure has been more a symbolic goal than a guide to theory and research. This review brings readers up to date with the full range of work on the project and an array of future prospects as of 2002, the year in which the WLS begins its second phase of data collection as a study of aging. A full bibliography of WLS publications is appended.

The Wisconsin Longitudinal Study (WLS) began with a 1957 survey of the educational plans of all high school seniors in the public, private, and parochial schools of Wisconsin. A Professor in the School of Education at the University of Wisconsin, J. Kenneth Little, conducted the statewide survey with the cooperation of the Wisconsin State Superintendent of Schools. Many states, including Wisconsin, were then consolidating and upgrading their post-secondary educational institutions. At that time, most of the units of the present University of Wisconsin System were state and county teachers colleges. Not only was there a rising demand for college and university education in the late 1950s, but also economic and technological competition with the Soviet Union was a major public issue. Findings from the 1957 survey were extensively used by the state in planning its support and reorganization of postsecondary education in the 1960s and 1970s (Little 1958; Little 1959; Little 1965).

In 1962, William H. Sewell learned that the 1957 survey schedules and punch cards were sitting unused in the University administration building. Sewell had long been interested in the formation and consequences of youthful aspirations (Sewell, Haller, and Straus 1957), but he had lacked access to an appropriate population (Sewell 1988:134-5):

From the beginning of my career, I have been interested in the extent and nature of social mobility in our society and, particularly, in why some individuals are socially mobile in the course of their lives and others are not. I have never doubted that social structural factors, particularly socioeconomic, ethnic, race, and community background, influence one's life chances; but neither have I doubted that such social psychological characteristics as intelligence; motivation, and aspirations also play an important part. I thought that differences in career achievements might well be explained by variations in aspirations, resulting from

differences in individual and social background characteristics. My colleagues and I had done preliminary research along these lines in the early 1950s, but never with adequate data to establish this position.

Sewell also reported that he would have preferred to start with a younger cohort, but thought that, at the age of 53, his career would end before a younger cohort would complete its schooling and enter adult life. After an extensive preliminary examination of the quality of the survey data—including the key discovery that the schedules contained the names and addresses of students and of their parents—Sewell selected a random, one-third sample of the graduates, consisting of 10,317 cases, for further study. He then added information on the measured mental ability of each student from files of the Wisconsin State Testing Service, which had, since 1929, conducted a testing program covering all high school students in the state (Henmon and Holt 1931; Froehlich 1941).¹ Sewell developed a number of indexes based on information from the survey—including the socioeconomic status of the student's family, the student's attitudes toward higher education, educational and occupational plans, and perceived influence of significant others on educational plans—and then added these to each student's card. Finally, using secondary sources, he constructed relevant measures of school, neighborhood, and community contexts. These included the socioeconomic composition of each senior class, the percentage of its members who planned on going to college, the size of the school, the size and degree of urbanization of the community of residence, and the distance of the student's place of residence from the nearest public or private college or university.² Thus began a research program that is now entering its fifth decade.

The 1950s were a lively period in American sociology and social psychology (Sewell 1989). They were, also, a period of growing affluence during which adolescence was redefined

by the emergence of youth culture. Thus, Sewell and Little were by no means alone in focusing on adolescent circumstances and aspirations as the stepping-stone to adult lives. Other influential studies of American youth included James Coleman's (1961; Coleman 1960) *Adolescent Society* and Albert J. Reiss, Jr.'s studies of Nashville youth (Reiss and Rhodes 1961; Rhodes, Reiss, and Duncan 1965; Hauser 1972b). Sociologists of that time—and later times—were also captivated by Ralph Turner's (Turner 1960) provocative thesis contrasting “sponsored” mobility in British school systems with “contest” mobility in the United States. The Wisconsin study had been preceded by careful and insightful, but small and selective longitudinal studies, which had long been in progress (Burks, Jensen, and Terman 1959; Terman 1925; Terman and Oden 1959a; Terman and Oden 1959b; Oden 1968; Holahan, Sears, and Cronbach 1995; Elder 1974; Clausen 1993). In addition, it was soon followed by large, national longitudinal studies of youth, first among which was the ill-fated Project Talent of 1960. Three highly successful school-based national longitudinal studies of youth have followed—the National Longitudinal Study of the High School Class of 1972, *High School and Beyond* (the class of 1982), and the National Educational Longitudinal Study (the class of 1992). However, none of these larger studies has continued more than 15 years. The National Longitudinal Studies of Labor Market Experience began with cohorts of 14 to 24 year-old women and men in the late 1960s, but the male sample was soon abandoned because of high attrition rates. Only with the aging of the cohorts in the 1979 National Longitudinal Study of Youth—who are only 37 to 44 years old in 2002—will there be a national longitudinal study of women and men that compares favorably with the WLS both in size and coverage of the life course.

This review begins with an overview of the WLS data, which have been in the public domain since 1983 and are now available at <http://dpls.dacc.wisc.edu/wls/wlsarch.htm>. This site

includes the project bibliography and downloadable data, codebooks, and other documentation. We then review WLS research, focusing more on later analyses and findings than on the early work that was reviewed in detail by Sewell and Hauser (1980). In the last section of the paper, we outline some future directions for the WLS project.

It is difficult to assess our own work across 40 years; we make no claim to objectivity and little more to consistency. Rather, we have attempted to describe, as accurately as possible, our thinking at each stage of the project, and to indicate the ways in which our ideas and findings have evolved—often in pursuit of answers to old questions—as new data and more powerful methods have become available.

WLS DATA: 1957 TO 2002

Figure 1 provides a succinct overview of sources of survey data and types of administrative record data available in the WLS. After the 1957 school survey, the next two waves of survey data were collected from parents of the graduates in 1964 and from the graduates themselves in 1975 (Sewell and Hauser 1975; Clarridge, Sheehy, and Hauser 1977). Those two surveys had response rates of 87% and 89%, respectively, based on the original sample of 10,317. Taken together, those first three waves of data provided a full record of social background, high school curriculum, youthful aspirations and social influences, schooling, military service, family formation, labor market experiences, and social participation. Earnings of parents from state tax records, mental ability test scores and rank in high school class, and characteristics of high schools and colleges, employers, industries, and communities of residence supplemented early survey data.³ WLS records for graduates are also linked to those of three best same-sex high school friends; about half the graduates have a named peer in the sample. Data on

the occupational careers of male graduates are supplemented by Social Security earnings histories from 1957 to 1971.

In 1975, we obtained a roster of living siblings and chose a focal sibling at random for each graduate (except we included all twins). We located adolescent cognitive ability test scores for 6619 of the focal siblings of graduates (75%). In 1977, we obtained parallel interview data for a highly stratified sample of 2100 of these randomly selected siblings.

In 1975 and 1977, our concepts and measures resembled those of the Current Population Survey (CPS) and the 1973 Occupational Changes in a Generation Survey (OCG). In 1992, we balanced continuity with comparability to other well-designed surveys, e.g., Health and Retirement Survey (HRS), National Survey of Families and Households (NSFH), NIH surveys of work and psychological functioning, and the NORC General Social Survey (GSS). We also coordinated our design with members of the MacArthur Foundation Research Network on Successful Midlife Development, with the Whitehall II study (Marmot et al. 1991), and with Wadsworth's (1991) longitudinal cohort study of births in Great Britain in 1946.

In 1992 to 1994, we conducted four major surveys with primary support from the National Institute of Aging: telephone and mail surveys of WLS graduates and nearly identical telephone and mail surveys of an expanded random sample of focal siblings. We updated measurements of marital status, child-rearing, education, labor force participation, jobs and occupations, social participation, and future aspirations and plans among graduates and siblings. We expanded the content of earlier follow-ups to include psychological well being, mental and physical health, wealth, household economic transfers, and social comparison and exchange relationships with parents, siblings, and children (Hauser et al. 1992; Hauser et al. 1994).

In 1992, the 1-hour telephone interview focused on items with many skips and branches: life history data, family rosters, and job histories. For example, by asking about as many as 9 jobs with up to 5 employers, our job history protocol covered 94% of jobs held since 1975 that lasted 6 months or longer, but most respondents held only one or two jobs. Because we anticipated lower response rates in the mail survey, the telephone survey collected selected items from key inventories of personality (The Big Five, John 1990; 1991), health (depression and alcohol use), and well being (Ryff 1989; Ryff and Keyes 1995), of which there are more detailed measures in the mail instrument. The mail instrument had few skips or branches: it added measures of well being, social contact, exchanges, and health, including an extensive account of menopausal experience. The sibling mail survey was modified to obtain additional measures of physical health and health-related behaviors, richer accounts of menopausal experiences, and more information about relationships between the focal sibling and other family members—including indicators of childhood abuse (Kuo, Marks, Park, Hauser, and Hauser 2001).

Recently, we matched WLS graduates and siblings to the National Death Index-Plus (NDI-Plus)—using Social Security Numbers (SSNs), names, and birthdates as identifiers—in order to obtain cause(s) of death and confirm date and place of death. We are currently doing the same for parents of the graduates and siblings, and we plan to add searches for their deceased children.

The WLS sample design has become increasingly complex over time, but a fair summary is that, in 1992, we completed telephone interviews with 8493 WLS graduates out of 9741 survivors, and we interviewed 4804 siblings out of 6260. Conditional on completed telephone interviews, mail survey response was about 80 percent. The cumulative response for graduates or

for siblings compares favorably with that in most one-time household surveys; however, joint coverage of graduates and siblings is lower when data from all of the surveys are used.

We will soon begin new surveys of WLS participants to be completed in 2002-03. As in the 1992 to 1994 round of the WLS, we will first carry out telephone surveys of the WLS graduates and our sample of their brothers and sisters. We again plan to contact all surviving members of the samples, whether or not they participated in the last round of the survey. These will be followed by mail-out, mail-back surveys, which will be longer than in 1992 to 1994 – as many as 48 pages. The telephone interview schedules will build in supplementary sections for (a) graduates or siblings who have been widowed and (b) who have had a physically or mentally disabled child or have experienced the death of a child. We will obtain permission from WLS participants to tape-record randomly selected telephone interviews in anticipation of later behavior coding of respondent cognition and interaction with interviewers. Because of our interest in joint survivorship and (eventual) widowhood, we will carry out shorter (30 minute) interviews with the spouses of graduates and siblings and with approximately 900 of their widows or widowers; these will focus mainly on health and family relations.

The strengths of the WLS as a resource for studies of the life course and aging lie in its longitudinal scope, its exceptional sample retention, the content and quality of survey and administrative data, and its relational design. It has followed a large and diverse sample from high school graduation to the cusp of retirement, and it has mapped social and economic relationships between the graduates and their significant others.

We are not alone in believing that the WLS is a uniquely valuable resource for studies of aging in America. For example, *New Horizons*, a recent report of the National Research Council, extols the value of the classic British birth cohort surveys (Douglas and Blomfield 1958; Douglas

1964; Douglas, Ross, and Simpson 1968; Wadsworth 1991; Kerckhoff 1990; Kerckhoff 1993). It then adds that, “In the United States, the Wisconsin Longitudinal Study ... is the closest to the British birth cohorts in richness of psychosocial information, but goes well beyond the British studies with its in-depth assessments of educational attainment and occupational experience as well as accompanying data from siblings, spouses, and parents” (National Research Council 2001:105).

While the WLS data center on the 1957 graduates, we now find it useful to think of them as focal points in sets of relationships with aging parents, spouses, adult children, and siblings, as shown in Figure 2, as well as relationships with the localities and social institutions through which they have passed—high schools, colleges, and employers. WLS files include full survey and administrative data records for graduates, linked with those of friends and siblings. Parents were the initial post-high school informants about graduates, but a great deal of our information about parents has come from administrative records or from graduates and siblings. Data have not previously been obtained from spouses or children—except sometimes to help locate sample members—but we will interview spouses (and widows) in this wave of the study, and we hope to add children soon thereafter.

The parallel data for siblings are a special strength of the WLS. Siblings provide unique data—self-reporting variables that cannot be obtained from proxies, cross-validating information about graduates and their families, and complementary accounts of inter-household (and intergenerational) exchanges. Analytically, the sibling data permit construction of multi-level models of family and individual effects on life course outcomes (Hauser and Sewell 1986b; Hauser, Sheridan, and Warren 1999).

Among Americans aged 60 to 64 in March 2000, 66.7% are non-Hispanic white women and men who completed at least 12 years of schooling (U.S. Bureau of the Census 2000: Table 1a) and thus resemble the WLS cohort. The WLS is unusually valuable in its representation of women as well as men. Also, because the WLS is the first of the large, longitudinal studies of American adolescents, it provides the first large-scale opportunity to study the life course from late adolescence through the mid-60s in the context of a full record of ability, aspiration, and achievement. The WLS graduates and their siblings have lived through major social changes: rising affluence, suburban growth, the decline of old ethnic cleavages, the cold war, and changing gender roles. Moreover, the WLS cohort, born mainly in 1939, precedes by a few years the baby boom generation that has taxed social institutions and resources at each stage of life, and thus the study can provide early indications of trends and problems that will become important as the larger group passes through its early 60s. The WLS overlaps the youngest cohorts that entered HRS in 1992, and this has provided opportunities to check the scope of our findings. Unlike the WLS, HRS is nationally representative, but it does not cover the lives of respondents from adolescence to old age.

The WLS data also have obvious limitations. Some strata of American society are not represented. Everyone in the graduate sample completed high school. Sewell and Hauser (1975) estimated that about 75% of Wisconsin youth graduated from high schools in the late 1950s; about 7% of siblings in the WLS did not graduate. There are only a handful of African American, Hispanic, or Asian persons in the WLS. Given the minuscule share of minorities in Wisconsin when the WLS began, there is no way to remedy this omission. About 19% of the WLS sample is of farm origin; this is consistent with national estimates for cohorts of the late 1930s. In 1964, 1975, and 1992, 70% of the sample lived in Wisconsin, but there were

respondents in every state and several foreign countries. Fifty-seven percent of WLS graduates resided in Wisconsin at every contact. WLS graduates are homogeneous in age, but the ages of selected siblings vary widely, mainly 10 years older to 10 years younger than the graduates.

We think that the WLS data are a scientific resource of inestimable current and future value. In their evaluation of the WLS for studies of social stratification, Jencks, Crouse, and Mueser (Jencks, Crouse, and Mueser 1983:4) wrote: “If the determinants of status attainment really vary appreciably from state to state, we should not be pooling data from different states into national samples. If the processes do not vary appreciably, we can learn as much from Wisconsin as from the whole country.”

MAJOR RESEARCH THEMES OF THE WLS

Community Contexts and Educational Aspiration

The first several years of WLS research focused on the influence of community, neighborhood, and family background on educational aspiration and attainment. This phase of the project is summarized in Table 1. The first several rows focus on community and neighborhood effects, while the last three report studies of the effects of family origins and gender. Table 1 and—as appropriate—the following tables contain four columns. The first column cites relevant WLS publications; the second gives key findings; the third identifies the data; and the fourth cites relevant comment, criticism, elaboration, or replication.

From earlier work (Sewell et al. 1957), we knew that socioeconomic origins and measured academic ability were major factors in the educational and occupational aspirations of youth. In addition, we knew that women have lower aspirations than men do. Consequently, we have taken gender, academic ability, and socioeconomic status into account in assessing the effects of other variables, such as community and neighborhood characteristics, on aspirations

and achievements. Sewell (1963) and Sewell and Orenstein (Sewell and Orenstein 1965) showed that community of residence significantly influenced the aspirations of both males and females, until the socioeconomic origins and academic ability of students were taken into account. However, we were intrigued by the fact that high status, high ability farm boys had lower aspirations than similarly advantaged boys from urban communities.

Sewell and Haller (1965) checked a number of theoretically derived explanations, such as those dealing with opportunity structure and self-perceptions, to explain differences in the aspirations of rural and urban youth. Sewell and Haller (1967) attempted to explain differences in the aspirations of farm boys in terms of the differences in their family backgrounds, significant others' influences, social context, and measured mental ability. Unlike previous researchers, they found few differences between boys aspiring to farm and those aspiring to lower prestige occupations (blue-collar and lower white-collar). However, boys who aspired to professional and executive positions were quite different from those aspiring to any of the lower status occupations; they had greater measured mental ability and more encouragement from significant others for college attendance. Portes, Haller, and Sewell (1968) further explored the effect of significant others' influence and measured ability on occupational attainment and found results compatible with Haller and Sewell (1967).

Neighborhood and School Contexts and Educational Aspirations

Our findings about community background and aspirations had led us to the tentative conclusion that differences in aspirations may be due more to differences in the gender, socioeconomic, and ability compositions of communities, neighborhoods, and schools than to normative differences among them. Thus, Sewell and Armer (1966a) tested the thesis, then popular, that the socioeconomic composition of a student's neighborhood of residence had a

large, independent effect on educational aspiration. The essential arguments and expectations of the thesis were as follows: (1) Ecological processes in large cities result in socioeconomic segregation; (2) school segregation is in large part a consequence of residential segregation; (3) public high school enrollment areas represent functioning subcommunities for high school youth within large urban complexes; and (4) thus, normative climates or modal levels of aspiration have a pervasive effect on the educational aspirations of all youth residing in a neighborhood, regardless of individual socioeconomic status or academic ability levels.

Sewell and Armer's study population included all 3,999 public high school seniors in the Milwaukee metropolitan area for whom responses to the 1957 survey were available. They developed socioeconomic status indexes for each neighborhood (public high school district) and examined the relationship between neighborhood socioeconomic status and the percentage of seniors in the high school who said they were planning to attend a college or university. They found the same pattern of differences between high-, medium-, and low-status neighborhoods that other researchers had reported: namely, the higher the status of the neighborhood, the larger the percentage of seniors with college plans (Wilson 1959; Rogoff 1961; Michael 1961; Sherif 1961; Havighurst and Neugarten 1962; Cleveland 1962; Coleman 1961; Turner 1964). When they controlled the student's socioeconomic status, measured ability, and gender, the differences between neighborhoods were greatly reduced; they concluded, therefore, that neighborhood status made no great contribution to educational aspirations. Their tabular analysis was confirmed by multiple correlation: the addition of neighborhood status as a predictor variable to an equation that already included the student's socioeconomic status, intelligence, and gender—all variables that are usually considered logically prior to neighborhood status—increased R^2 by

only 1.8 percent. Sewell and Armer concluded that past claims of the importance of neighborhood and school contexts in educational aspirations had been overstated.

In that same year—1966—James S. Coleman and colleagues published the results from their national study, *Equality of Opportunity* (Coleman et al. 1966); they found, also, that contrary to popular wisdom, American public schools were remarkably homogeneous in resources and in educational outcomes. In other words, school resources had little or no effect on student learning that could not be explained by the family backgrounds and academic ability of students. Many researchers challenged this finding, but it survived critical review and further research (Mosteller and Moynihan 1972; Jencks et al. 1972; Averch, Carroll, Donaldson, Kiesling, and Pincus 1972; Shea 1976; Spady 1976).

Sociologists have been remarkably reluctant to accept either Sewell and Armer's findings or those of Coleman and his colleagues. Belief in the effects of community, neighborhood, and school contexts has remained a staple of scientific and public discourse despite the preponderance of evidence against it. Perhaps this is because of the traditional sociological overtones of this notion and because it provides the discipline with a unique explanation of how a social system (a neighborhood or a school) can influence social inequality.⁴

The Neighborhood and School Context Controversy

Several scholars who had previously affirmed the importance of residential and school contexts in explaining educational aspirations quickly disputed Sewell and Armer's findings (Turner 1966; Michael 1966; Boyle 1966). They vigorously questioned Sewell and Armer's methods, causal priorities, and interpretation of the evidence; Sewell and Armer equally vigorously answered in return (Sewell and Armer 1966b) (see Table 1). The important substantive issues raised by this controversy are the following: (1) whether residential and school

effects interact with other variables, such as socioeconomic background (Spady 1970) and gender (Smith 1972; Hauser 1972b); (2) whether opposing normative and comparative processes mask the effects of neighborhoods and schools on aspirations (Meyer 1970; Hauser 1972b; Nelson 1972a; Nelson 1972b; Alexander and Eckland 1973); (3) how large the effects of various dimensions of student body composition are and how can these effects best be interpreted (Meyer 1970; Smith 1972); and (4) the extent to which neighborhood and school contexts affect later educational and occupational careers (Folger, Astin, and Bayer 1970; Griffin and Alexander 1978).

To pursue these questions, Hauser, Sewell, and Alwin (Hauser, Sewell, and Alwin 1976) reanalyzed the Milwaukee data and extended Sewell and Armer's 1966 analysis to the full Wisconsin sample. They employed a recursive structural equation model and analyzed postsecondary educational attainment as well as educational aspirations. They found that the coefficients of the recursive model did not differ substantially across schools in the Milwaukee sample. The (additive) effects of schools on aspirations were small and largely explained by school composition; this supported the original conclusions of Sewell and Armer. These findings held for educational attainment, as well as for aspirations. Moreover, Hauser, Sewell, and Alwin's analysis of the variations in educational aspirations and achievements within and between 424 Wisconsin high schools showed that most of the variability in educational aspirations and achievement occurred within schools rather than between schools, just as in the Milwaukee sample.

Hauser, Sewell, and Alwin's structural equation model included social background, measured ability, grades, curriculum placement, perceived encouragement of significant others, educational aspirations, and postsecondary educational achievement. Their most important

extension of Sewell and Armer's findings was that academic performance (grades in high school) works differently than curriculum placement (college preparatory vs. non college preparatory) in the attainment process. Grades depend much more on academic ability and less on socioeconomic background than does curriculum placement; moreover, the effects of grades are larger and more persistent than the effect of curriculum placement. Thus, while curriculum tracking is a highly visible form of social differentiation in the high school, Hauser, Sewell, and Alwin's findings suggested that in the long term, tracking may not significantly contribute to social stratification. However, other data have yielded stronger track effects (Alexander and McDill 1976; Alexander and Eckland 1975b; Marini 1978; Rosenbaum 1978).

Hauser, Sewell, and Alwin's analysis further reinforced the original findings that community, neighborhood, and school contextual effects on educational aspirations (and achievements) are rather small, once the socioeconomic background, ability, and gender of students are taken into account. Later studies have confirmed these findings (Heyns 1974; Jencks and Brown 1975; Alwin and Otto 1977; Alexander and Eckland 1975a). We suggest, therefore, that future analysis of the effects of neighborhoods and schools on educational aspirations and achievements might better focus on processes that take place within neighborhoods and schools rather than on neighborhood-to-neighborhood or school-to-school variations.

Social and Psychological Factors in Educational Aspirations

From the beginning of our research, we were interested in the contribution of social psychological factors to the development and maintenance of aspirations. We believed that, if we could explain educational aspirations, we would be well on our way to explaining educational achievements. Furthermore, we thought that differences in aspirations between children from higher and lower socioeconomic status groups could probably be explained at least in part by

differences in their social psychological experiences. More specifically, we think that children from higher status homes are more likely than those from lower status homes to score better on tests of cognitive skills, both because of their more favorable opportunities to develop these skills and because of the emphasis placed on academic achievement by their parents. Because of their more developed cognitive skills and the greater emphasis placed on school achievement by their parents, higher status children strive for high grades in school. Because they are seen to be brighter and better achievers than their lower status peers, higher status students are likely to be encouraged by their parents, their teachers, and other significant persons to take the courses that will best equip them for college. Their aspirations to attend college are reinforced by their superior grades in high school and by the encouragement of their parents, teachers, and peers. By the time they are high school seniors they are likely to have committed themselves to college and to professional and managerial occupations.

In our first effort to test these ideas, Sewell and Shah (1967) mapped out the educational plans of the students according to their socioeconomic origins. Their analysis confirmed earlier findings of Sewell, Haller, and Straus (1957), that for each gender, socioeconomic status is a powerful determinant of who will plan on college—even when academic ability is controlled. For example, boys who were in the highest quarter of intelligence and the highest quarter of socioeconomic status were twice as likely to plan on college as were equally able boys in the lowest socioeconomic status category. Girls in the highest quarter of intelligence who were also in the highest socioeconomic quarter were almost three times more likely to have college plans than were their equally able peers from the lowest socioeconomic quarter.

Sewell and Shah (1968b) then began to look at the effects of significant others on educational aspirations. They focused on the effects of parents on the development and

maintenance of their children's aspirations. Parents serve as models to be emulated, and they constantly reveal their overt and covert evaluations and expectations through interactions with their child. The child's perception of the parents' intent to encourage or discourage his/her educational aspirations is crucial to the development and maintenance of aspirations.⁵

Sewell and Shah (1968a) found that the educational attainments of both parents had strong positive effects on the aspirations of their children. The effect of father's education tended to be greater among sons, but the effect of mother's education was generally greater among daughters. High levels of education of both parents were far more important in motivating high levels of educational aspirations than was discrepancy in parents' educational achievements—regardless of which parent had the higher or the lower level of educational achievement. This finding offered no support for the theory of status crystallization as applied to children's educational aspirations (Ellis and Lane 1963). The child who has at least one parent with high educational attainment is likely to develop high educational aspirations. Two such parents are better yet.⁶

Several researchers (Kahl 1953; Bordua 1960; Simpson 1962) had assumed that a child's perception of his/her parents' expectations and the encouragement given to him/her were powerful factors in that child's educational aspirations. However, they had not established whether observed social class differences in educational aspirations could be explained by perceived parental encouragement or what additional influence parental encouragement might have on educational aspirations when the influence of socioeconomic status and ability were both taken into account. Sewell and Shah (1968b) showed that there are large differences in educational aspirations, for both boys and girls, depending on their perception of the degree of encouragement given them by their parents. These differences persisted even when gender,

socioeconomic status, and measured ability were controlled. At the same time, neither parental encouragement nor measured ability, singly or jointly, could entirely account for socioeconomic status differences in educational aspirations for either girls or boys.

Sewell and Shah (1968b:567) extended their analysis using a path model to estimate and compare the direct and indirect effects of socioeconomic status, measured intelligence, and parental encouragement on college plans. They assumed that parental encouragement would be influenced by the socioeconomic status and measured ability of the child, and that all three variables would have direct effects on college plans. This analysis revealed that for both genders, the effect of socioeconomic status on parental encouragement is greater than that of ability. At the same time, the effect of socioeconomic status on parental encouragement is greater for girls than for boys, whereas the effect of ability on parental encouragement is greater for boys than for girls. The direct effect of parental encouragement on the college plans of both genders is greater than the direct effect of socioeconomic status or of ability. While this simple model explained significant variation in parental encouragement and in college plans, it also left much of the variance in college plans unexplained, thus suggesting that additional variables be introduced into the model. Thus, this paper helped lay the groundwork for development of the well-known “Wisconsin Model” of status attainment or social stratification.

The data in Sewell and Shah (1968b) were reanalyzed by Fienberg (1977) under a conditional logit specification. Fienberg's reanalysis confirms several of the findings reported above. It also locates interaction effects of ability and socioeconomic status on parental encouragement and a strong interaction between gender and the direct effect of ability on college plans; ability has a much larger direct effect on college plans among boys than among girls.

EDUCATIONAL ATTAINMENT AND ITS CONSEQUENCES

The first major, longitudinal extension of the WLS was the 1964 postcard survey of 87% of parents of the graduates, which ascertained brief educational histories, marital status, military service, and occupation (Sewell and Shah 1967). With the cooperation of the Wisconsin Department of Revenue (and following their strict arrangements to guarantee the confidentiality of individual records), we learned the parents' occupations and income from their 1957 to 1960 state income tax returns. Under strict controls, the Social Security Administration linked men's earnings from 1957 to 1967 to WLS survey data. Later, we extended the earnings record to cover the period from 1957 to 1971.⁷ We then added information, obtained from several published sources, on the characteristics of the secondary and postsecondary schools, colleges, and universities attended by the graduates. The following paragraphs summarize early findings about the influence of social origins on educational attainment and about the role of education in the process of stratification.

SES, Academic Ability, and Educational Attainment

Sewell and Shah (1967) was a largely descriptive study of the effects of socioeconomic origins on educational attainment. We thought schooling to be the key variable in the attainment process, not only because education is an important status variable in its own right, but also because it greatly facilitates later occupational, economic, and sociopolitical attainments. Using a socioeconomic index, which included parents' income, father's and mother's educations, and father's occupation, we found large differences in the educational attainments of the socioeconomic groups. These differences were large no matter how we defined educational attainment—whether as continuation in any kind of postsecondary education, college entry, college graduation, or professional and graduate education.

For example, when we divided our sample into quarters of socioeconomic status, we found that a student in the highest quarter of socioeconomic status had a 2.5 times greater chance of obtaining postsecondary education than did a student in the lowest quarter of socioeconomic status. Students who were high in socioeconomic status had approximately a 4 to 1 advantage in entering college, a 6 to 1 advantage in college graduation, and a 9 to 1 advantage in graduate or professional education. In the middle socioeconomic status categories, the rates were consistent between these extremes: The lower the socioeconomic status category, the lower the educational attainment. These socioeconomic status differences in educational attainment held for both genders, but the educational attainments of women were uniformly less at every socioeconomic level than the attainments of men. The advantage of males, however, was greatest in the lowest socioeconomic quarter and least in the highest socioeconomic status quarter.

When academic ability was controlled by dividing the sample into quarters according to the students' measured cognitive ability, we still found that higher socioeconomic status students attained substantially higher educations than did lower status students. Among students in the top quarter in ability, a student from the lowest quarter in socioeconomic status was about half as likely to attend college or to graduate from college as a student from the highest quarter in socioeconomic status. The chances of a high ability student obtaining graduate or professional education, where one would presume ability would be determinate, were approximately 3.5 times greater if that student came from a family with high socioeconomic status than from a low socioeconomic status family. Even in the lowest ability group, a student from the highest socioeconomic level enjoyed a 4 to 1 advantage in attending college and a 9 to 1 advantage in graduating from college.

Some members of even the most disadvantaged groups made it through the system to the highest educational levels, and a few from the highest levels did not continue their education beyond high school. Nevertheless, the findings reported above lead to the inevitable conclusion that in the attainment of higher education, the members of this cohort found it difficult to escape the effects of their socioeconomic origins. Further, we found that women suffer disadvantages in the process of higher education, which closely parallel those of persons with low socioeconomic status (see also Sewell 1971).

The Development of the Wisconsin Model

From the late 1960s to the early 1980s, much of our work focused on causal models of the stratification process (see Table 2). We began working on causal models in the mid-1960s, and we were greatly influenced by frequent consultations with Otis Dudley Duncan and by his early writings on path models (Duncan 1966).⁸ At the 1964 meetings of the International Sociological Association, Sewell and Shah (1967:16-19) presented a four-variable linear causal model that captured the direct and indirect effects of socioeconomic status and measured intelligence on educational attainment as mediated by educational aspiration (see Figure 3). Perhaps the most interesting finding was that educational aspiration strongly affected educational attainment, independent of its relationship to measured intelligence and socioeconomic status; aspiration also mediated much of the effect of those two variables among both males and females. The total effects of socioeconomic status on educational attainment were greater for females than for males, whereas the total effect of measured intelligence was greater for males than for females.

Building on a basic model of the process of stratification, which had been developed by Blau and Duncan (1967), we developed a linear causal model in order to elaborate and explain

the effects of socioeconomic background and measured ability first on educational achievements and then on occupational attainments. According to that model, these influences are mediated by social psychological variables such as academic achievement in high school, the influence of significant others, educational aspirations, and occupational aspirations (see Figure 4). In the first of two papers Sewell, Haller, and Portes (1969:84-86) presented the theoretical rationale for this social psychological model of the educational and early occupational attainment process. Among men with farm origins, they demonstrated that this general model successfully elaborates the complex process by which social psychological variables mediate the influence of status origins on educational and occupational attainments. The model proved to be neither as simple nor as elegant as we had postulated when it was applied to men from a wider range of community size categories (Sewell, Haller, and Ohlendorf 1970:1023). Several direct paths were significant, in addition to the indirect paths that, we had assumed, would mediate earlier influences (see Figure 5). Moreover, the model proved to be considerably more effective in accounting for educational attainment than occupational achievement, explaining from 52 to 58 percent of the variance in educational attainment and from 32 to 42 percent of the variance in occupational attainment, depending on community size. This differential was understandable because most of the social psychological variables in the model were conceptually and temporally more proximate to schooling than to jobs.

This model has come to be known as the "Wisconsin Social Psychological Model of Status Attainment" or simply as the "Wisconsin Model" (Haller and Portes 1973; Alexander, Eckland, and Griffin 1975; Alexander et al. 1975). While we have been pleased with the recognition and influence accorded this model, we think it would be unfortunate if other researchers came to reify our scheme. For example, the specification of our model not only

reflects our ideas about the social and psychological mechanisms of achievement, but also the accessibility to us of particular measurements that were mainly designed and obtained by others. Further, we do not regard our model as an alternative to a simpler causal scheme, like that of Blau and Duncan (1967), but as one useful elaboration of it. We believe our model has been useful and influential because of the quality of our data and because our specification reflects several important themes within an active research community of sociologists and economists. At the same time, we do not want our future research to be circumscribed by the visibility of its past, nor do we want other investigators to be so limited.

Elaboration, Tests, and Extension of the Wisconsin Model

We have modified and elaborated this basic model in several ways. (1) Measured ability was shifted from its position as an exogenous variable to the first mediating position in the model, thereby accommodating the widely held view that social status affects measured intelligence (Turner 1964). (2) The socioeconomic status and significant other indexes were disaggregated (Hauser 1972a; Sewell 1971; Sewell and Hauser 1972). (3) Other background and intervening variables were included in the model (Alwin 1974; Wang and Sewell 1980; Hauser et al. 1976; Alwin 1976; Sewell, Hauser, and Wolf 1980). (4) The model was extended to include earnings as a dependent variable (Sewell and Hauser 1972; 1975). (5) The model framed studies of work organizations and their effects (Hodson 1983; 1984a; 1984b; 1989; Hodson and Seitz 1988). (6) The model was applied to estimate the effects of colleges on graduation and adult achievement (Alwin 1974; Alwin 1976; Alwin 1972; Alwin, Hauser, and Sewell 1975; Symonette 1981; Brand 2000); (7) Occupational achievement processes of women and men were compared (Sewell et al. 1980; Hauser, Sewell, and Warren 1994; Hauser et al. 1999; Sheridan 2001). (8) We accounted for effects of errors of measurement (Hauser, Tsai, and Sewell 1983;

Tsai 1983; Sheridan 2001). (9) We extended the model to occupations held through age 54 (Hauser et al. 1994; Hauser, Warren, Huang, and Carter 2000).

Disaggregated Models and Earnings

When Sewell and Hauser (1972; 1975; also, see Hauser 1972a) disaggregated the socioeconomic status variable into its component parts—father’s education, mother’s education, father’s occupational status, and parents’ income—each of those variables had an approximately equal effect on educational attainment and on each of the intervening variables in the model (see Figure 6). This suggested that there are real limits on the ability of social scientists and policy makers to interpret or affect social inequalities in terms of income differences (also, see Mayer 1997). The effects of the socioeconomic variables on educational attainment, net of measured ability, were impressive: a year of either father’s or mother’s education; ten points in father’s occupational status (as measured by the Duncan (1961) Socioeconomic Index); or \$1,000 in parents’ income was worth from about one-half to eight-tenths of a year’s schooling for the son. The influence of measured ability was likewise impressive: Even when socioeconomic background was well specified, a ten-point difference in ability was worth four-tenths of a year of schooling. Less than one-fifth of the association between ability and schooling could be attributed to the mutual dependence of these variables on socioeconomic background.

Most of the effects of the socioeconomic background variables on educational attainment were mediated through their influence on the perceived encouragement of significant others and on educational aspirations. Although there were small effects on measured ability, there were no direct effects of the socioeconomic background variables on son’s grades. There were effects of socioeconomic origins on perceived parental encouragement and peer’s influence, independent of ability and grades. The socioeconomic background variables also affected aspirations directly

and indirectly through their effect on parents and peers. There were no direct effects of socioeconomic background on perceived teacher's encouragement. Teachers apparently were perceived to base their encouragement on ability and grades but, unfortunately, had much less effect on educational aspirations than did parents or peers. Finally, father's education had a small direct effect on son's educational achievement, but most of the effect of parents' education was mediated by the intervening variables in the model. Son's occupational status was affected by father's occupational status, even when other variables in the model were controlled, but this direct effect was not large. The effect of all of the other socioeconomic status variables on occupational attainment was completely mediated by the other variables in the model, especially by the son's educational attainment. There were also substantial effects of ability on occupational status, both directly and indirectly through grades, significant others, and educational and occupational aspirations, but particularly through education. There was, as expected, a very large direct effect of education on occupational status.

When son's earnings were added to the model as the final dependent variable, Sewell and Hauser found, as expected, that son's educational and occupational attainment each played an important part in son's earnings. About half of the effect of educational attainment on earnings was due to its effect on occupational achievement and about half was due to its direct effect on earnings. In other words, higher education led to better jobs and to higher pay at any level of occupational status. The effects of both educational and occupational attainment on earnings represented just about one-half of their correlation with earnings, and the remaining half was due to the mutual dependence of earnings, occupational status, and educational attainment on prior variables in the model. Net of all prior variables, one year of postsecondary education was worth \$169 in son's annual earnings (in 1967), and ten points on the Duncan SEI were worth \$123. By

far the most surprising finding was that parents' average annual income (from 1957 to 1960) had the largest effect on son's earnings of all the variables in the model. Even after the effects of the other socioeconomic background variables, the social psychological variables, and the son's educational and occupational attainments were taken into account, \$1,000 in average parental income ten years earlier was worth \$123 dollars in son's current earnings. The social psychological variables other than ability and occupational aspirations had little or no effect on earnings.

In contrast with its effectiveness in explaining educational and occupational attainment, our social psychological model was not highly predictive of earnings. Sewell and Hauser's model explained 54 percent of the variance in educational attainment and 43 percent of the variance in occupational status (in 1964), but only 7 percent of the variance in earnings (in 1967). The model was designed to explicate the effects of social background and social psychological factors, not to account for variations in economic achievement. It did not contain contemporaneous measurements of jobs and earnings, nor social psychological variables that are more directly relevant to economic success, such as measures of the individual's economic aspirations, orientation toward work, and attitudes toward his job. Neither did the model contain other proximate variables, such as job authority, occupational experience, seniority, on-the-job training, and labor market information, which typically enter analyses of earnings.

The importance of such variables is suggested by the results of an analysis in which Wang and Sewell (1980) added place of origin, current residence, and migration to the Sewell-Hauser model. These residential variables affected men's earnings but did not alter the effects of socioeconomic and ability variables on earnings.

Another reason why our model was not highly effective in explaining earnings is the relatively short time that had elapsed since our students were high school seniors. Many college-educated men were still in graduate and professional training, were completing military service, or had just entered the civilian labor market (Hauser 1979). Thus, the sample was truncated at the top of the distribution of potential earnings. Furthermore, among persons with earnings, schooling and labor market experience were strongly negatively correlated, thus suppressing the effects of educational attainment and of prior variables that affect earnings through schooling. With the cooperation of the Social Security Administration we extended our personal earnings histories through 1971, and our analyses of annual cross-sections show a regular pattern of growth in the effects of schooling and ability on earnings (Hauser and Daymont 1977; Hauser 1979). In the more recent period, however, the effect on earnings of social psychological factors was still mediated almost completely by the length of schooling.

Stryker (1981) studied the effects of religio-ethnic background on educational and occupational attainments in the early career, finding that Jews had the most positive orientation to education and occupational status, followed by Irish and Anglo-Saxon Catholics, Italian Catholics, and German Lutherans. Cultural mediation through academic performance, significant others' influence, and educational plans accounted for much of the religio-ethnic effect on educational and occupational attainment.

Williams (1981) employed WLS data in an attempt to separate peer influence from peer selection in the stratification process. Some critics of the Wisconsin Model had claimed that rather than measuring peer influence our model assesses the influence of peer selection. Using a truncated form of the original Wisconsin Model (Sewell et al. 1969) and a model developed by Duncan, Haller, and Portes (1968), Williams found that both models yielded almost identical

estimates of peer influence. Even when the variables that affect both aspirations and peer selection in the Wisconsin Model (curriculum, rank in class, and teacher encouragement) were controlled, the peer influence effect remained highly significant, but only about half as large as originally estimated.

College Selection and College Effects

We have used the Wisconsin Model to frame studies of other topics: the effects of neighborhoods and high schools on the educational aspirations and attainments of their students (Hauser et al. 1976), discussed above; the effects of colleges on the likelihood that their matriculants graduated and on occupational and economic achievements (Wegner and Sewell 1970; Alwin et al. 1975; Alwin 1974; Symonette 1981; Brand 2000); and gender differences in occupational careers (Sewell et al. 1980; Sheridan 1996; Hauser et al. 1999; Sheridan 2001).

The effect of colleges on their students is a topic of enduring interest. Most of the issues and the earlier research were critically reviewed by Feldman and Newcomb (1969), by Feldman and Weiler (1976), and by Bowen (1977). Because different types of colleges select different types of students, it is necessary to control student input characteristics (such as socioeconomic background, measured intelligence, grades in high school, significant other's influence, and aspirations) in determining the effect of colleges on the student's graduation, occupational attainment, and earnings. Selectivity, especially in the context of deliberate choice, raises serious methodological problems, which cannot necessarily be resolved in standard multivariate analysis (Brand 2000).

In the Wisconsin sample, the type of college attended has a small, but significant effect on college graduation after student input variables are controlled. Different types of colleges have different effects for students of different socioeconomic and ability levels. Students usually

attend types of institutions in which their chances for graduation, in light of their socioeconomic background and academic ability, are more favorable (Wegner and Sewell 1970).

We examined the effects of colleges on early occupational and economic achievement using the background and social psychological variables in our model as student inputs, assumed to be causally prior to the effects of college. We posited that occupational status depends on student inputs, type of college attended, and educational achievement and that earnings depend on all of the preceding variables, including occupational attainment; see Alwin, Hauser, and Sewell (1975) and Alwin (1974; 1976) for the details.

For the sample of men included in our studies, types of colleges differ in respect to the educational, occupational, and economic achievements of their students. Only a small proportion of the gross differences in the achievements of students, however, is associated with differences in the types of colleges: 8 percent of the variance in years of college completed, 6 percent of the variance in occupational status, and 5 percent of the variance in earnings. Consequently, the role of college quality in explaining early career attainments cannot be great relative to other sources of variability in attainments. After taking into account the selection-recruitment processes, which our analysis indicates are essentially additive, the initially small gross differences between types of colleges are reduced by more than one-half. Moreover, our analysis showed the weakness of unidimensional conceptions of college quality; different types of colleges were favorable in their influences on school completion, on occupational status, and on early career earnings.

With such small net college effects, it was difficult to accept past claims about the great importance of college characteristics, especially college quality, on educational, occupational, and earnings achievements. We were equally unimpressed with similar claims made by Griffin and Alexander (1978) based on analyses of 1970 data for men in the Explorations in Equality of

Opportunity sample of 1955 high school sophomores. As with other effects on earnings, we anticipated that the influence of college might be greater, later in their careers (Solmon 1973). However, in analyses of data from the 1975 WLS follow-up, Symonnette (1981) and Brand (2000) confirmed the initial findings. Brand's analysis is noteworthy because she used propensity scores, rather than a traditional covariance analysis, to account for college selectivity; Dale and Krueger (1999) recently obtained similar findings in national samples.

Occupational Achievements of Women and Men

In the 1960s, women as well as men were covered in most research with the Wisconsin data, yet the focus on model development, along with the separation of many women from the labor force during their childbearing years, unfortunately led to the neglect of women's achievements in our research of the 1970s. Only on one occasion did we estimate the Wisconsin Model for women, and those results were published only in summary form (Sewell 1971).⁹

After the 1975 round of data collection, we began to look more closely at women's careers. We had been impressed and puzzled by the fact that the application of our model and the models of others seems to indicate that the process of social stratification was very similar for men and women (Sewell 1971; Carter 1972; Hout and Morgan 1975; Treiman and Terrell 1975; McClendon 1976; Featherman and Hauser 1976). With the additional information obtained from our 1975 follow-up survey, we were able to examine more completely the educational and occupational achievements of the men and women in our Wisconsin sample at age 36, using the best measurements then available from all of our data sources (Sewell et al. 1980).¹⁰ We then had information on first jobs (first, full-time civilian job after leaving school), as well as on 1975 occupation. Specifically, the inclusion of first job in our models allowed us to ascertain (1) whether the ways in which education affects current occupation are different for men and women

(by decomposing the total effect of education on current occupation), and (2) whether the effect of status of first job on current occupation differed for women and men. Also, we were able to ascertain (3) whether the effects of socioeconomic background and the social psychological variables (mainly involving the school experience) diminish over time, as evidenced by their effects on the status of first job and status of current occupation. (4) Finally, we could investigate the importance of newly ascertained social background variables, including mother's employment, number of siblings, rural-urban origins, and intact family.

Past research had indicated broad similarity in the attainment of occupational status among employed men and women: equivalent means, standard deviations, and parameter estimates for the effects of socioeconomic background and education on occupational attainment. Of course, occupational status is not the only important outcome of labor force activity. Moreover, similarity between genders in the attainment of occupational status does not imply similarity in other aspects of the jobs held by men and women.

In fact, the similarity between women and men in overall effects of education and social background on occupational standing was deceptive. The inclusion of status of first job in our models revealed striking gender differences in the occupational attainment process. Women obtained first jobs whose occupational status was, on the average, ten points higher on the Duncan SEI than those of men, while at the same time women had a much narrower range of variation in first job statuses than men. In their 50s, men's mean occupational status level was higher than women's because men had gained in occupational status over their work lives, whereas women lost ground. Thus, we found that women were advantaged in first job placement, but were disadvantaged from that point onward.

Inspection of the process through which men and women were sorted into positions of occupational status at age 36, based on their prior achievements (of education and status of first job), suggests a very complicated allocation process. Despite striking gender differences, the total returns that men and women obtained for their educational attainment were essentially the same. With regard to the status of their first job, women obtained much smaller returns on their education than men did. However, later in the life cycle, women obtained higher occupational status returns on their educational qualifications than men, while men obtained higher returns on their earlier occupational achievements. Women in their 30s were forced to rely on formal qualifications such as educational attainment for occupational placement; men were better able to build on their earlier occupational experience.

Male-female differences in reliance on educational qualifications and on work experience are articulated with gender segregation in jobs. The fact that women have relatively high levels of status in first jobs can be explained partly by what we know about the kinds of jobs they enter. The status of first jobs of women is higher than that of men because women with educational levels between twelve and fifteen years usually take first jobs in lower white collar occupations (clerical and sales jobs) which have higher occupational statuses than the occupations that men with the same levels of education tend to enter (blue-collar jobs).

The fact that women fail to gain occupational status over their work lives can also be explained by occupational segregation. This lack of movement is probably not explained by the fact that women interrupted employment because of family obligations. Even subgroups of women who had no children or very continuous employment experience did not, on the average, experience increases in levels of occupational status over the course of their lives, as indicated by the research of Wolf (1975) and Rosenfeld (1976).¹¹ Wolf and Rosenfeld (1978) have speculated

that this might occur because female-dominated occupations are easy to reenter after interruptions in employment, yet do not offer much chance for upward mobility; their empirical analysis offers some confirmation of this speculation.

Grimm and Stern (1974) have shown that although women are highly represented in certain professional occupations (nursing, social work, school teaching, librarian), men are over represented in the higher level positions within these same occupations. That is, even if "female-typed" occupations offer chances for advancement, men in these occupations are more likely to be promoted. Research based on our data also indicates that women are much less likely than men to be in positions of authority—controlling the work of others—even when the effects of educational attainment, level of occupational status, and self-employment are held constant (Wolf and Fligstein 1979a; 1979b). Taken together, these several pieces of evidence suggest that women, because of their concentration in female-typed occupations and gender discrimination within jobs, are less likely than men to be upwardly mobile over their working careers and tend not to be promoted to higher level supervisory positions. Obversely, although men typically enter work-life in lower status occupations, they experience greater upward mobility than women both between and within occupations.

Sorensen (1983a) used WLS data on the occupational achievements of ever married women to investigate two problems: the influence of number of children on (1) their mothers' occupational status achievements and (2) married women's decisions to enter and leave the labor force. In the first study she found that although children had a significant effect on a mother's gains in occupational status from her first to her current job, there were no differences by number of children when status of job held at the birth of her first child was controlled. This was interpreted to indicate that a woman's family responsibilities, measured by number of children,

influence the status of the job she returns to, but not the gains in status once she returns to the labor force. A second study revealed that the determinants of employment patterns and the decision to leave and reenter the labor force are based on different factors and combinations of life-cycle variables (Sorensen 1983b).

Because of the continuing impact of job segregation by gender, Sheridan (1997) used data from the Wisconsin Longitudinal Study to analyze women's movement into and out of male-dominated occupations.¹² Event history analysis was used to ascertain the relative risk of a woman's entering and leaving a male-dominated occupation. The analysis evaluated gender role socialization and neoclassical economic theories of occupational sex segregation by including a number of covariates that measure background characteristics and the timing of life course events of the woman, characteristics of the jobs the woman entered over her career, and indicators of opportunity in the local labor market. The findings support sex role socialization as an explanation of women's movement into sex-atypical occupations, and show that having aspirations for a male occupation, in particular, was associated with increases in the percentage of women employed in male-dominated occupations over time. Neither neoclassical economic theories nor demand-side theories were supported.

Given the complex allocation process that we have observed, the strategies for producing equality of opportunity for men and women are not obvious. Further extending the chances for advancement of women in female-dominated occupations would clearly improve the situation; also, women are enjoying increased opportunities to obtain the graduate and professional education necessary for entry into the higher professions and higher levels of administration in both the private and public sectors. But this is not enough. We think it unlikely that great progress will be made in reducing occupational (or economic) inequalities between women and

men unless and until occupational gender-typing and outright discrimination are substantially reduced.

A few of the other findings from Sewell, Hauser, and Wolf's (1980) analysis of gender differences in attainment should be mentioned briefly. The introduction of several additional measures of social background—number of siblings, rural origin, broken family, and mother's employment—did not substantially alter our previous interpretation of the processes of educational or occupational achievement. Rural origins tended to depress the occupational achievements of both men and women, and those from larger sibships were slightly disadvantaged at every stage of the achievement process. Neither broken families nor maternal employment had significant effects on the achievement process. As expected, the direct effects of social background and of most aspects of the high school experience decreased across the life course, particularly as more recent experiences and achievements came into play.

The Organization of Work

Using supplementary data on corporate economic structure taken from business directories—such as plant size, capitalization, type of industry, and geographic location—Hodson (1983; 1984a; 1988) has shown how corporate organization influences workers' earnings. He finds that workers in large plants with advanced production technology have higher earnings, better fringe benefits, and steadier employment than workers in smaller firms. Of all of the variables used to represent corporate and industrial structure, plant size was most important in determining labor market outcomes. Traditional labor market segmentation concepts were of very limited use in this analysis. He also found that, although organizational size has a negative effect on job satisfaction, capital intensity and budgetary autonomy have positive influences on job satisfaction (Hodson 1984b). In another study based on our 1975 data, Hodson (1989) found

that on average women report greater job satisfaction than men in spite of objectively inferior jobs. His interpretation of this finding is that women workers compare themselves with other women who are still worse off than they are and that women are less willing to verbalize their dissatisfaction with their work than are men.

Occupational Careers to the mid-50s

Hauser and Sweeney (1997) asked whether and how poverty in adolescence affects the life chances of high school graduates over the years 1957 through 1992. Poverty in adolescence was based on parents' incomes obtained from state tax records from 1957 to 1960—the years in which the high school graduates were most likely to have attended post-secondary schools. The mean income for these years was inflated from 1958 to 1992 dollars and “income to needs ratios,” based on the official 1992 official poverty thresholds of the U.S. Census, were used in the analysis. Despite the fact that the WLS sample is made up of high school graduates and that Wisconsin has had historically low rates of poverty, more than one-fifth of the sample came from families that were “in poverty” by this definition.

Hauser and Sweeney systematically examined the effects of poverty, gender and social background variables on selected outcomes available in the Wisconsin data over the period 1964 to 1992, including educational and occupational attainments, hourly wage rates and other earnings, measures, and physical and mental health measures from the 1992 survey. Briefly, they found that adolescent poverty is associated with negative outcomes in most domains covered by WLS data. Both women and men experience negative outcomes. The effects of adolescent poverty, however, are reduced with limited controls for socioeconomic background (mother's education and family structure) and are substantially reduced when additional socioeconomic background variables (father's education, father's occupation, number of siblings, size of place

of origin, etc.) are added. The remaining effects of adolescent poverty are largely eliminated when academic performance, social support, aspirations and post secondary schooling are included in the models. Thus, in the WLS cohort the life long consequences of adolescent poverty are largely explained by its correlation with other social and psychological background characteristics or exhausted through its effect on the initial conditions of young adulthood.

Hauser, Sewell, and Warren (1994; also see Hauser et al. 2000; Hauser et al. 1999; Warren, Sheridan, and Hauser 2001) extended the Wisconsin Model of occupational achievement through the early 1990s, when graduates were in their mid-50s. Their unique contribution was an explicit framework to measure evolution in the effects of educational attainment and prior variables on occupational status across the career – first job and jobs in 1970, 1975, and 1992. With a couple of notable exceptions, the effects of educational attainment and its antecedents changed proportionally across careers; that is the relative effects of social background variables, academic ability, social psychological variables, and educational attainment were constant from career entry to the mid-50s. If we take the occupational status of the first job as the standard, the constants of proportionality were 1.00, 1.44, 1.39, and 1.29 among men, and they were 1.00, 1.00, 0.94, and 0.69 among women. Thus, among women, the main change that occurred across the life course in effects on occupational status is that they declined. Among men, most effects (except that of education) increased from first to later occupations, yet there was some indication that the effects began to decline by the mid-50s. The only exceptions to this general pattern were that the effect of education on the status of men's first jobs was unusually large, and the effect of adolescent academic ability on the status of women's 1992 jobs was unusually large.¹³

Response Errors in Models of Attainment

One of the questions frequently raised in survey research is the extent and nature of response variability in self reports and proxy reports dealing with socioeconomic status. Massagli and Hauser (1981), analyzed repeated measurements of socioeconomic variables in the WLS data, both self reports and proxy reports, and they used various methods for assessing agreement. They found no support for assertions that inconsistencies in these reports invalidate the results of most stratification studies (Bowles 1972; Bowles and Gintis 1976; also, see Bielby, Hauser, and Featherman 1977a; 1977c).

Perhaps the most thorough examination of the question of response bias is by Hauser, Tsai, and Sewell (1983), who estimated the influence of response error in social and psychological variables in the original Wisconsin Model (also see Warren and Hauser 1997; Hauser et al. 1999; Sheridan 2001). Their analysis was designed to measure the power of this model to account for social influences and educational and occupational aspirations and achievements when measurement error was taken into account. There were two or more indicators of most theoretical constructs in the model; many of these were ascertained from independent sources on the same occasion or from the same source as many as twenty years apart. The model identifies selected correlations among errors in variables ascertained on the same occasion, from the same person or using the same method. It also permits retrospective reports of social influences and aspirations to be contaminated by intervening events. The revised estimates provide empirical support for the original specification of the model, a modified causal chain in which social background and ability affect post-high school outcomes primarily by way of their effects on encouragement from significant others and on educational and occupational aspirations. They also find that the model, when corrected for measurement error, is much more

powerful in explaining the process of educational and occupational attainment than the original model. For example, the model accounts for 69 percent of the variance in postsecondary schooling, for 73 percent of the variance in the status of first jobs, and for 69 percent of the variance in occupational status at age 36.

Impact of the Wisconsin Models

It would be difficult, without a much more detailed inquiry than we care to make, to assess the influence of the Wisconsin Models on other studies of social stratification. Moreover, we make no pretense of objectivity in the evaluation of our own work. At the same time, several sources of evidence indicate that other workers have given much attention our models and that these models have served in one way or another in the development of their own research. In Table 3, we lists many relevant studies, commentaries, and debates from the 1960s and 1970s.¹⁴ One evidence of this is the frequency with which the three publications dealing with the development of the models have been cited (Sewell et al. 1969; Sewell et al. 1970; Sewell and Hauser 1975). Each of them soon became a "citation classic," based on the frequency of mentions in the Social Science Citation Index. Another publication on the decomposition of effects in path analysis (Alwin and Hauser 1975), which grew out of our work on these and other models developed in the Wisconsin Longitudinal Study, has also become a citation classic. Moreover, the Wisconsin Models have been reviewed in many textbooks on social stratification, in introductory sociology texts, and in many books on economics, social psychology, education, and occupations. Other reviews and evaluations of our work have been presented by Bielby (1981), Featherman (1981) Campbell (1983), and Jencks, Crouse, and Mueser (1983).¹⁵

Replications and Extensions of the Models

A number of researchers have estimated the Wisconsin Model in studies of national samples of American youth or in studies of other states, regions, or nations. Also, the model has been used to interpret differences in the aspirations and achievements of men and women, of blacks and whites, of old American and other ethnic groups, and of rural and urban persons. Seldom have these applications of the model been genuine replications; often some variables have been missing, while others were not measured in the same way that we measured them. In many instances, educational and occupational achievements have not been included because of lack of these data; thus, the models estimated are actually used to explain aspirations, not attainments. Quite often measured intelligence is not included because of lack of test scores. In other instances, new variables have been added to the model, such as curriculum placement, student's self-assessments, athletic participation, and measures of social contexts. The applications have usually been modeled after the original social psychological model (Sewell et al. 1969; Sewell et al. 1970), rather than the disaggregated model (Sewell and Hauser 1972; 1975).

Several replications of the earlier version of the Wisconsin Model (Sewell et al. 1969; Sewell et al. 1970) have treated educational and occupational aspirations as the ultimate dependent variables. One of the more interesting and complete of these replications is Gilbert's (1977) study of twelfth grade male students in Ontario. Other complete and partial replications include a study by Wilson and Portes (1975) of the Youth in Transition national sample of one thousand boys; Kerckhoff's (1974) study of four samples of American boys; Porter's (1974; 1976) study of Project Talent men; Picou and Carter's (1976) study of Louisiana youth; Marini's (1978) longitudinal study of the Adolescent Society sample; and Rosen and Aneshensel's (1978)

study of gender differences in aspirations in upper New York State. The models also have been applied in several studies based on samples from other nations: Williams's (1972) longitudinal study of Canadian youth; Hansen and Haller's (1973) study of Costa Rican youth; Hansen's (1977) study of Brazilian youth; Yuchtman and Samuel's (1975) study of the aspirations of Israeli youth; Nachmias's (1977) comparison study of kibbutz and urban high school students in Israel; Dronkers' (1978) study of Dutch youth; and Naoi and Fujita's (1978) study of men in the Tokyo area. In all of these applications of our model, with American samples and with samples from other countries, we have been impressed with the similarity of findings where reasonably similar measurements were employed.

The first substantial replication of the Sewell and Hauser version of the model was undertaken by Alexander, Eckland, and Griffin (1975); see also Alexander and Eckland (1975b), who used fifteen-year longitudinal data from a national sample of males first sampled in 1955 as high school sophomores. After extensive comparisons that revealed some differences between the results for the Wisconsin and the national sample, they concluded that the social psychological variables in our model (they called them "interpersonal and subjective school variables") mediated most of the effects of social background and ability on later achievements, thus indicating processes quite similar to those demonstrated in our original analysis. They concluded that the minor differences in results of the two studies were probably due to differences in sample composition and research design.

Another complete replication of the full model by Jencks, Crouse, and Mueser (1983), in which the model was tested using Project Talent, EEO data, and the WLS data, concluded that all three data sets yield results broadly similar to those originally reported by Sewell and Hauser (1972; 1975). Both the direct and indirect effects were very similar to those we originally

reported. They concluded that the relatively small differences found in the results obtained from the three samples can probably be explained by terms of differences in question wording, age of sample members, and population coverage.

In an earlier study, Otto and Haller (1979) had arrived at similar conclusions using conceptually similar but operationally non-identical structural equation models to examine the social psychological theory of status attainment. In this research, they also compared the results obtained using the WLS and EEO data with those obtained using data from Lenawee County, Michigan. They concluded there was strong support for the social psychological explanation embodied in the Wisconsin Model.

Most other applications of the Wisconsin Model have not been intended primarily as replications, but rather sought to examine and elucidate contextual, gender, and racial and ethnic differences. Much of the literature on contextual effects has been discussed in an earlier section of this paper. In these applications, measures of school characteristics were added to the basic equations of our model in order to estimate the extent and nature of school effects. The best known applications of the models are by Alexander and Eckland (1975a), on school context and educational attainment, and by Alwin and Otto (1977), on educational aspirations. Both studies confirmed Meyer's (1970) suggestion that effects of average ability level of the school tend to cancel out the positive effects of school socioeconomic or interpersonal process levels. Some of the other notable applications of the model, in whole or in part, to the study of school effects include the following: Alexander and McDill's (1976) study of curriculum placement; McDill and Rigby's (1973) research on the impact of educational climates; Rosenbaum's (1976; 1978) study of the effects of teaching and class rankings on educational aspirations and achievement; Heyns' (1974) research on social selection and placement within schools; Jencks and Brown's

(1975) article on effects of schools on students; and Alwin, Otto, and Call's (1976) replication of Hauser, Sewell, and Alwin (1976).

The Wisconsin Model has also been used in studies of race and gender differences. Because we have already discussed applications of the model to gender differences in educational and occupational achievements, our attention here will be devoted to its use in the study of racial differences. It has often been noted that we have not considered race in the development and application of the Wisconsin Model. The reason is obvious: Less than 2 percent of Wisconsin's population was African-American in 1957. Moreover, at that time, Wisconsin law made it illegal to include questions regarding race, ethnic background, and religion in school surveys. The law has changed, and we obtained information on race and ethnicity in the 1975 survey; still, the number of blacks in the sample is too small to justify any analysis of social stratification among African-Americans.

Other samples have been used to apply the Wisconsin Models in studies of black-white differences in social stratification. Several of these studies have focused on educational aspirations, but did not measure educational attainment or its consequences: Carter, Picou, Curry, and Tracy (1972), Hout and Morgan (1975), and DeBord, Griffin, and Clark (1977).

Three studies, however, are known to us which have used the Wisconsin Model to explain differences in the educational attainments of blacks and whites (Porter 1974; Portes and Wilson 1976; Kerckhoff and Campbell 1977). Of these, the closest to a replication of the Wisconsin Model is that of Portes and Wilson (1976), which is based on the Youth in Transition sample (Bachman 1970). Porter's (1974) analysis, based on a national sample of Project Talent males, provides useful findings but substantially alters the structure of the model. Kerckhoff and Campbell's (1977) analysis, based on a sample of boys in Fort Wayne, Indiana, omits the

influence of significant others and omits occupational aspiration, but it adds junior high school performance and school disciplinary problems to the model. All three studies find that socioeconomic status is a much more important determinant of aspirations and attainment for whites than for blacks. This is apparent at almost every successive stage of the stratification process, including educational and occupational aspirations and attainments. At the same time, the effects of measured ability on aspirations and attainments are strong both for blacks and for whites. The crucial factor in educational attainment for blacks is their high school performance; nothing else in the models helps consistently to explain aspirations among blacks. The Portes-Wilson and Porter analyses explain more variance in white than in black ambitions and attainments; Kerckhoff and Campbell's finding differs only in that their expanded model explains slightly more variance in the educational attainment of blacks than of whites. In summary, the variables in the Wisconsin Model form a cohesive and powerful model for whites, but are much less effective in explaining the aspirations and attainments of blacks. These findings lead us to the conclusion that aspects of the background, ability, and experience other than the limited set of variables in the Wisconsin Model will be needed to explain more fully the aspirations and achievements of African-Americans (for more recent work on black-white differences in aspiration formation, see Teachman 1987; Morgan 1996).

We have encountered a number of studies in which the model was used to estimate the effects of an additional variable on aspirations or achievements. Perhaps the best example is the study by Otto and Alwin (1977) of the effects of athletic participation on educational aspirations and socioeconomic attainments—a subject that has received considerable attention in past research (see Coleman 1961; Rehberg and Schafer 1968; Spady 1970; Spady 1971; Spreitzer and Pugh 1973; Snyder and Spreitzer 1977). Otto and Alwin find that athletic participation has

positive effects on educational aspirations and attainments, as well as on occupational attainment and income, which persist when all other variables in the model are controlled. They find no support for the claim that the influence of athletic participation is mediated by students' perceptions of acceptance by peers; rather, the major mediating variable is encouragement of educational plans by significant others. (Warren, Sheridan, and Hauser 1998; Hauser 1994)

Critical Reactions to the Models

Our models of social stratification have aroused a good deal of critical comment. Some of the early criticism of our work centered on the question of the proper ordering of the variables in the models, particularly the specification that ability is causally prior to ambition or aspiration (Turner 1966; Rehberg, Schafer, and Sinclair 1970); see Sewell and Armer's (1966b) answer to Turner and Alwin and Mueller's (1971a) refutation of Rehberg, Shafer, and Sinclair's argument. Another related criticism is that our models do not take into account feedback mechanisms between some of the social psychological variables of the models, particularly between grades and parental encouragement, and between parental encouragement and aspirations; see Alexander and Pallas (1983) and the response by Hauser and Sewell (1986a). In general, we have not modified our model in response to these criticisms because we think that the theory we have set forth properly specifies the causal ordering of the variables, given the particular measurements obtained for our sample. For example, our measurement of high school grades (rank in class) is a cumulative reflection of performance in secondary school, while our measure of parental encouragement refers to the perception of the student late in his senior year. Still others have faulted us for not meeting the assumptions of the statistical models we employ, such as additivity and linearity; for example, some criticize us for not taking into account important interactions among our variables (Smith 1972). For the most part, these charges arise because

critics have failed to read our work carefully—particularly the technical footnotes and appendices of our articles and monographs (Gasson, Haller, and Sewell 1972; Sewell and Hauser 1975; Hauser and Daymont 1977).

The most serious theoretical criticism is that our models are too social psychological or individualistic, that they ignore social structural features, such as community, neighborhood, and school contexts. Specifically, it has been said that our social psychological models are insufficiently concerned with allocative processes. Our models are said to assume that the individual is relatively free to move in the social system, so what one attains will be determined by what one chooses to do and how well one does it, whereas the reality is that the individual is quite constrained by the social structure, so one's attainments are determined by what one is permitted to do (Kerckhoff 1976; Pursell 1977; Horan 1978; Goldman and Tickameyer 1984). This is, we believe, a gross oversimplification that rests in part on an inadequate or incomplete reading of our research on social stratification. From the very beginning, our concern has been with the question of the extent to which one's social origins (the premier allocation variables) have a determining effect on one's aspirations and achievements, even when other achievement-relevant variables, including ability, are taken into account. As earlier sections of this paper have shown, these basic structural effects persist beyond aspirations and continue to influence occupational and economic attainments at least through middle age.

We have attempted to measure other structural variables, such as community, neighborhood, school context, curriculum, and quality and type of college. We have found that these variables add little to the explanation of attainments and do little or nothing to elucidate the attainment process.¹⁶ We have found that selection processes, both self-selection, as in the case of neighborhoods and schools, and institutional selection, as in the case of colleges, account for

most of what had appeared to be contextual, institutional, or structural effects. Others have found very small increases in explanatory power by adding allocation variables such as curriculum placement, other types of tracking, discipline, and counselor's advice, to our models (Rosenbaum 1978; Kerckhoff 1976); indeed, most of the evidence seems to show that these decisions are based on performance criteria (Rehberg and Rosenthal 1978; Heyns 1974). At the same time, we have also been unimpressed by the effects of some social psychological variables, such as need for achievement, creativity, conformity, parents' aspirations (rather than children's perceptions of parental encouragement), or students' wishes (rather than expectations) (Featherman 1972; Porter 1974; Rosenbaum 1978).

We do not claim that allocation factors are not at work throughout the life cycle of the individual. On the contrary, we believe they are, that allocation processes help to determine aspirations and attainments, and that these processes are reflected in the empirical relationships observed in our models. In no way, for example, do our findings that ability or ambition affects life chances presume that actors are unconstrained by social structures or institutions. Allocation involves selection processes that are based in part on appraisals of merit, which are frequently unreliable, as well as on unmerited discrimination. Also, they often involve self-selection processes. Finally, allocation decisions frequently take place over a long period; they are cumulative, and sometimes they are made in secret or in covert ways. For all of these reasons, it is difficult to define and assess allocation variables in ways that will provide valid and reliable measures for use in models of attainment. This does not mean that the effort should not be made. To date, we have been trying to explain the process of social stratification with the best variables available to us, picking up new theoretical ideas wherever we can find them, and following up the ideas that are most strongly supported by the data. The allocation variables we have used

have added little to our models. We welcome the introduction of additional allocation variables into models of social stratification. We think that, if they are well measured and specified, their introduction will further explain the attainment process. The problem so far is that much of the thinking about them has been fuzzy, and their measurement has been inadequate. As in many areas of sociology, in stratification research the concept of social structure has been more a symbolic acknowledgment of the goals and limits of our knowledge than a guide to theory and research.

Finally, our models have been criticized because they explain appreciably less of the variance in occupational attainment than in educational attainment and still less of the variance in earnings (Kerckhoff 1976). Indeed, accounting for variance, rather than explaining and interpreting social processes, appears to be the aim of many sociological researchers; we believe this is a most unfortunate form of goal displacement. Our models were developed to explain educational attainment and were not designed originally to explain occupational status, much less earnings, except through their influence on education. It turned out that models based almost entirely on experiences and characteristics of high school students do remarkably well at explaining later occupational attainments. Because educational attainment and work experience are, *ipso facto*, negatively correlated among youth, one should not expect to account very well for cross-sectional variations in earnings among young people (Hauser and Daymont 1977; Hauser 1979).¹⁷

The preceding discussion has focused on the impact of the Wisconsin Model in the 1970s, but since 1980 our work has been cited, used, criticized, and—better yet—extended or elaborated many hundreds of times. For example, in the past 10 years there have been 256 citations to just three key WLS publications (Sewell et al. 1969; Sewell et al. 1970; Sewell and

Hauser 1975), each of which was at least 17 years old in 1990. In one especially important line of work, Morgan (1996) carried out a partial replication of the model of educational aspirations for black and white students, comparing findings for national samples of high school sophomores in 1980 and 1992. He has continued with very sophisticated theoretical work on the formation of educational expectations (Morgan 1998). Unfortunately, space limitations do not permit us to discuss this recent work.

Models of Sibling Resemblance and Family Effects

Just as the Wisconsin Model was inspired by Blau and Duncan's (1967) classic work, our development of sibling data in the WLS was inspired by creative efforts of Duncan (Duncan 1968; Duncan, Featherman, and Duncan 1972), Jencks (Jencks et al. 1972), and their collaborators.¹⁸ They had gathered and synthesized diverse data on the socioeconomic resemblance of siblings; the advantage of the WLS was that we could obtain such data within a single, well-defined population.¹⁹

During the 1975 interview, we obtained a roster of each respondent's living siblings. The roster included age, gender, and highest level of schooling. This has informed our analyses of the influence of age, gender, birth order, sibship size, and child spacing on ability, educational attainment, and occupational achievement. One strength of these data is that they provide detailed information both on families and on samples of persons. A second advantage is that they include detailed information on the structural characteristics of sibships. By using the data on families, on sibling pairs, and on our respondents, we have been able to overcome two problems: Data on families are inherently confounded with temporal changes in the larger society, while data on samples of persons risk confounding family structure with other characteristics of the family (Sewell and Hauser 1977).

In each sibling roster, we identified a randomly selected sister or brother by name and ascertained that person's occupation, current address, and the name of the last secondary school (if any) attended by that person in the state of Wisconsin. We randomly chose a highly stratified probability sample of selected siblings for interview during 1977, using much the same instruments and methods as the 1975 graduate survey. We also ascertained data on the mental ability of the siblings from the Wisconsin State Testing Service. Interviews were completed with 90 percent of the selected siblings, and test scores were obtained for 80 percent of them. The 1977 sample contains approximately 1,500 same-sex pairs of siblings and 500 cross-gender pairs of siblings. In the 1992 to 1994 round of the WLS, we expanded the sibling sample and, again, used essentially the same instruments as for the graduates. In 1993, we interviewed 4800 siblings, including those who were in the 1977 sample.

With these data, we have analyzed the effects of the family on measured mental ability, on educational, occupational, and economic achievements, and on selected indicators of health (see Table 4). The resemblance of siblings raised together is, of course, a fundamental indicator of the force with which the family functions to create and maintain systems of social differentiation and inequality. Sibling resemblance captures the effects of social and economic background, of family structure, and of other commonalities of social and psychological functioning of the family. It is possible to give sibling resemblance an explicit interpretation to the extent that shared familial characteristics have been measured.

The first research publication using these data was a progress report in which we discussed the selection of the sibling samples, compared response rates for the 1975 survey of respondents with the 1977 survey of siblings, and compared the personal and demographic characteristics of the respondents to our two surveys with those of respondents in national

surveys (Hauser, Sewell, and Clarridge 1982). Having satisfied ourselves that our data are representative of high school graduates, we then analyzed the effects of birth order on educational attainment by comparing the mean years of schooling of our respondents and their siblings by sibship size and birth order, finding no significant relationships. We then elaborated a tentative structural model for estimating the similarity of sibling pairs and tested that model on like-gender and cross-gender pairs. Our preliminary findings indicated that the usual array of social background and ability variables do not fully account for the similarities in sibling's socioeconomic achievements. This preliminary work led us to believe that it would be possible to develop better structural equation models for the analysis of sibling resemblance.

The effect of family socioeconomic background on educational and socioeconomic attainment may lead to bias in simple regressions of occupational status or other outcomes of schooling on educational attainment. This is usually called "family bias." Hauser (1984) developed a structural equation model of sibling resemblance in occupational attainment that took into account possible family bias. He then tested this model on data on sibling pairs from the WLS sample and Olneck's (1976) Kalamazoo sample. Family bias in the effect of schooling on occupational status was less than others have claimed, and estimates of family bias are very sensitive to specifications of response variability in schooling. He also provided some useful methods for cross-population comparisons of structural equation models.

Hauser and Mossel (1985; 1988) used these models to estimate the regression of occupational status on schooling in a sample of 518 pairs of brothers from the WLS sibling sample, but their models also corrected for survey response error (see Figure 7). They found that the regression of occupational status on educational attainment was relatively insensitive to both response error and to the specification of family factors. Family membership accounted for about

half of the variance in occupational status, but there was little evidence that failure to control family background led to upward bias in estimates of the effect of schooling on occupational status.²⁰

Hauser and Sewell (1986b) further analyzed the influence of family effects in models of education, occupational status, and earnings for fraternal pairs from the WLS sibling sample. They modeled the effects of measured and unmeasured family background, mental ability, and educational attainment on occupational status and earnings (see Figure 8). Their models were estimated from incomplete data (for brother pairs who may or may not have been interviewed in 1977), with corrections for measurement error, and they permitted direct comparisons of within- and between-family regressions. There was no evidence that effects of family background lead to bias in the effects of mental ability on schooling or in the effects of schooling on occupational status or earnings. Family background did have large effects on ability and schooling but smaller effects on socioeconomic achievement. Hauser and Sewell carried out parallel analyses of Olneck's (1977) data on Kalamazoo brothers and concluded that, after correcting for attenuation, the Kalamazoo data provided no more evidence of family bias than the Wisconsin data.

Hauser (1988) extended the methodological work on sibling resemblance by comparing two linear models educational and occupational resemblance among pairs of Wisconsin brothers.²¹ Each model decomposes the regression of occupational status on schooling into a between-family regression and a pair of within-family regressions, one for each sibling. In the first model, within-family regressions are written in unique within-family factors for each brother, and in the second model, the within-family regressions are in total educational and occupational variables. The two models are equivalent when within-family regressions are the same for each member of the pair. Otherwise, they are not equivalent; the second model implies

two, distinct between-family regressions. Using the WLS sample of sibling pairs, Hauser showed that, under certain conditions, either model may exhibit symptoms of near-underidentification or even be underidentified. In the Wisconsin data, because family bias was minimal, this problem was more likely to occur when using the second model than the first.

Hauser and Wong (1989) further extended the work on sibling resemblance and intersibling effects using data from a Nebraska sibling sample originally studied by Benin and Johnson (1984). The reanalysis showed no unusually high level of resemblance between brothers in the data, but there was a strikingly low similarity between older sisters and younger brothers. Hauser and Wong then reanalyzed Olneck's (1976) Kalamazoo data and found clear evidence of reciprocal affects of brother's levels of education, net of common family background and the effect of each brother's mental ability on his schooling. The unconstrained effect of older brother's schooling on younger brother's schooling was larger than the reciprocal effect, but a model of equal effects fit almost as well. This left open two questions, whether reciprocal influence occurs in other types of sibling pairs and whether there is a predominant influence of older on younger siblings. Lee (1989) used the structural model developed by Hauser and Wong to examine sibling resemblance and cross-sibling effects on educational attainment in WLS sibling pairs. However, that analysis was inconclusive because of problems with missing data.

Although studies of social stratification position the family of origin as a key agent, few studies have explored family effects across careers. Hauser, Sheridan and Warren (1999) used WLS data on sibling pairs to explore the relationship between social background, cognitive ability, educational attainment, and occupational standing across the life course. They extended the model of sibling resemblance estimated by Hauser and Sewell (1986b) in three important ways. They indexed occupational standing in two different ways, using typical educational levels

and typical income levels (Hauser and Warren 1997). They included pairs of sisters and of sisters and brothers as well as brother pairs. They also modeled occupational status at four times: first job, job in 1970, job in 1975 or 1977, and job in 1992 or 1994.

Hauser, Sheridan and Warren found that women are at least at parity with men in occupational education, but they fall far below men in occupational income. Women and men experience growth in occupational education, both in the transition from their families of orientation to the labor market and throughout their careers. However, women typically enter occupations with low levels of income, early in their careers, and subsequent growth never leads to parity with their fathers, peers, or brothers. Occupational levels of education are more persistent across generations and within the career than occupational levels of income or earnings.

Across families and regardless of gender, Hauser, Sheridan, and Warren (1999) found that educational attainment levels are determined largely by cognitive ability and to a lesser degree by social background; family levels of occupational standing are determined largely by family education levels. Within families, cognitive ability also affects occupational standing primarily through schooling. Occupational inequalities and the effects of educational attainment on those inequalities both tended to decline across the life course. Finally, if there is a “central” variable in the attainment process, it is educational attainment, not cognitive ability. Cognitive ability, like social background, affects occupational careers primarily through the length of schooling; net of schooling, the effects of cognitive ability are very small.²²

As in the case of the original “Wisconsin Model,” our research on sibling similarities and differences has been widely cited and used by other researchers. See, for example, papers by Degraaf and Huinink (1992), Toka and Dronkers (1996), Sandefur and Wells (1999), Sieben and

De Graaf (2001), and the extensive work of Teachman and associates (1995a; 1995b; 1995c; 1996; 1997; Teachman, Carver, and Day 1995; Teachman, Day, Paasch, Carver, and Call 1998; Teachman and Paasch 1998).

Family Structural Characteristics and Sibling Differences

All of the above studies attempted to explain why siblings resemble one another more than unrelated persons resemble one another. The next group of studies investigated why and how siblings are different from one another. The latter question is the one that has drawn the greatest attention over the years. The particular aspect of family structure that has been most studied is the relation of birth order to cognitive achievement. At least since the time of Galton (1874), scholars have been fascinated with the influence of birth order on various cognitive achievements. Recent reviewers of this massive literature agree that past studies have been so seriously flawed that their findings cannot be accepted (Adams 1972; Schooler 1972; Ernst and Angst 1983; Steelman 1985). The more common faults are inadequate samples, selection biases, poor measures of key variables, and failure to control for variables known to be related both to birth order and to the outcomes under study. Moreover, most past studies have not had sufficient information to simultaneously examine the role of other family structural variables on career achievements.

Hauser and Sewell (1985) examined the effects of birth order and size of sibship on educational attainment for the full sibships of our primary respondents. Their work was prompted by revival of interest in birth order effects in the 1970s, resulting from theories proposed by Zajonc and Markus (1975), Zajonc (1976), and Lindert (1977).²³ Hauser and Sewell looked at educational attainment among more than thirty thousand men and women in the full sibships of nine thousand graduates. They found no effects of birth order on educational

attainment when size of sibship and other relevant family structure and family background variables were controlled, whether they looked at selection into the sample of high school graduates, postsecondary educational attainments of those graduates, or educational attainments within full sibships. Educational attainment appeared to increase with birth order when family size was controlled, but this happened when secular increases in schooling had occurred within as well as across families. Thus, when they controlled birth year and parental education, there was no significant association between birth order and educational attainment: There were no linear or nonlinear effects, there were no effects of being first or last born, and there were no statistically significant or patterned differences among ordinal positions. There was no need to invoke any of the more complex theories of child development or intrafamilial resource allocation to explain the effects of birth order on educational attainment because there was nothing to explain.²⁴

The findings of this study were quite upsetting to the psychologists who had developed confluence theory to explain apparent negative effects of birth order on mean intelligence scores grouped by family size and birth order in a large body of Dutch inductees into military service. These mean intelligence scores clearly declined as family size and birth order increased. Singletons scored lower than first borns in small families, and mean intelligence scores declined especially rapidly for last born children. Zajonc and Markus (1975) postulated that these findings resulted from the confluence of two factors: the family intellectual environment and a teaching function. They argued that the average mental age of parents and the children constitute a family intellectual environment that declines with each successive birth. Thus, the relationship between family size and birth order tends to be negative. The teaching function effect arises presumably because the teaching of a younger sibling stimulates the intellectual growth of the older sibling.

The intellectual development of singletons and last born children is decelerated because they have no one to teach. Zajonc and Markus formulated a complex nonlinear mathematical form of the theory, which, they claim, explains not only the trends in the Dutch data but also those in several other large data sets (Zajonc and Bargh 1980). A number of other scholars attempted to assess the theory in relation to cognitive achievements in other samples but also failed to confirm distinctive propositions based on it. Zajonc and his colleagues flatly rejected the evidence from these studies because the studies use regression techniques; they claim that these techniques fail to take into account the complexities of the dynamic theory on which the confluence model is based, particularly, the changing intellectual environment of the family as children are born and develop.

Retherford and Sewell (1991) published a comprehensive set of tests of the model using the WLS data. These tests involved a strict application of the mathematical form of the model to aggregate data, to between-family data on individuals, and to within-family data on individuals. In none of these tests did the model detect or explain any significant birth order effects. They then created a simple test using IQ differences within sibling pairs and found no significant differences in intelligence due to birth order. Finally, they reapplied the mathematical form of the confluence model to the Dutch data and, after correcting for serious errors in the original application of the model, found no birth order effects in those data either. As might have been predicted from their responses to other scholars who found no support for confluence theory, Zajonc and his colleagues (1991) published an evasive and error-filled response to the Retherford and Sewell article. In their response, they dismissed the reported findings without effectively contesting the validity of the analytic techniques used by Retherford and Sewell, and they made fallacious statements about the WLS sibling data (see Retherford and Sewell 1992).²⁵

Kuo and Hauser (1996) combined analyses of sibling resemblance in educational attainment with analyses of individual characteristics, birth order, and other family structure variables. In their models, gender, gender composition of the sibship, size of sibship, and birth order mediate the effects of social origins on the educational achievements of siblings. Unlike studies of sibling resemblance that were based on the 1977 data on sibling pairs, this analysis used the 1975 data on the living siblings of graduates. They found that one common family factor is sufficient to explain the variation of educational attainment among brothers and sisters. Although effects of social origin variables on brothers are larger than on sisters, the relative effects of measured social origins are virtually the same among sisters and brothers. The disparity between educational attainments of brothers and sisters persists across sex composition and family size. Ordinal position does not alter the effects of social origins on educational attainment nor does it directly affect educational attainment. Father's and mother's education are equally important for all siblings regardless of birth order, gender composition, and family size.²⁶

How can persistent inequality between sisters and their brothers, along with substantial equality within gender be explained? According to the maximization assumption (Becker 1981), in families of larger size, parents are more likely to invest in a certain child, the most gifted, a boy, or the oldest, to maximize their investment return. On the other hand, the compensation hypothesis (Griliches 1979) says that parents try to equalize outcomes, so they tend to allocate resources equally between their children and to compensate, to some extent, for the handicaps of the children with lower natural endowments. Both arguments are partially supported. Parents might invest more in boys than in girls, but within gender, parents invest equally, at least with respect to the characteristic measured here, relative birth order. There may be other characteristics of siblings, not included in the Kuo-Hauser models, such as differences among

children in health, ability, and motivation, which may tend to attract or discourage parental investment. However, negative findings with respect to relative birth order and gender composition tend to rule out the influence of factors that might be highly correlated with them.

Kuo and Hauser (1997) studied sibships with two through five siblings and extended their analysis by pooling their data for these sibships to further examine the effects of sibship size and composition on educational attainment. They found that size of sibship does not interact with the effect of family background on educational attainment. But measured and unmeasured family variance components vary inversely with size of sibship. Within-family variance is larger among men than among women, but does not vary by sibship size. Thus, the share of between-family variance decreases by size of sibship and the share of within-family variance increases by size of sibship. They find no differences in the effects of the family background variables they studied (father's and mother's education, father's occupational status, intact family, and farm origin) on educational attainment by sibship size. Within families the effect of gender is the major factor influencing educational attainment: brothers obtain significantly more education than their sisters. The disadvantage of being female is larger than that of having an additional child in the family. The effect of gender on educational attainment persists through all sizes of sibships studied, birth orders, and gender composition of sibships, but it is greatest in small sibships. Obviously, these findings for the Wisconsin cohort cannot be generalized to all sibship sizes nor to the more recent cohorts in which the educational achievement of women has been increasing.

Hauser and Kuo (1998) extended one of their key findings in response to claims by two economists, Butcher and Case (1994:532-33), that

throughout the century a woman's educational choices have been systematically affected by the sex composition of her siblings, and that a man's choices have not.

Women raised only with brothers have received on average significantly more education than women raised with any sisters, controlling for household size.

Hauser and Kuo found that the evidence in Butcher and Case's own study was exceptionally weak. Moreover, there was no evidence in three other large samples—the Occupational Changes in a Generation Survey, the Survey of Income and Program Participation, and the National Survey of Families and Households, in addition to the WLS—that the gender composition of sibships had any effect on educational attainment. In summary, from research to date using WLS sibling samples, we doubt that any birth order or sibship composition effects appear in our data when they are properly analyzed.²⁷

RESEARCH THEMES FROM THE 1980S TO THE PRESENT

In the 1980s and the 1990s, research based on the WLS took several new directions using data from the 1975 to 1977 and 1992 to 1994 surveys. In the next pages, we discuss selected research reports, focusing on themes of family formation and fertility, cognitive ability and its consequences, social roles and well being, and socioeconomic status and health (see Table 5).

Family Processes

MacDonald and Rindfuss (1981) tested the well-known Easterlin hypothesis that marriage will occur earlier when young men judge their economic prospects to be favorable with respect to their parents' income. They found no support for the hypothesis. They did find, however, that young men's earnings were positively related to earlier marriage, net of schooling and military service; increased wages apparently make marriage more affordable. Once time in school and in military service was taken into account, completed years of schooling had no effect on the timing of marriage.

Janssen and Hauser (1981) studied the effects of religion and residence on fertility, finding that Catholic and farm-reared women have much higher fertility than non-Catholic and non-farm women. Catholic religious background affects fertility by increasing the likelihood of having more than two children; its indirect effects operate through religious schooling and continuing Catholic affiliation.

Retherford and Sewell (1988) critically surveyed research on measured intelligence and fertility and concluded that no definitive conclusion could be reached from the results of past studies of this relationship because of nonrepresentative samples, inadequate measurements of intelligence, faulty data on fertility, and inadequate statistical analyses. They then used the reproductive histories of WLS sample members and Henmon-Nelson scores to estimate the IQ selection differential for this cohort. They calculated the IQ selection differential to be a decline of eight-tenths of an IQ point in a generation. The contribution of females to this decline was five times as great as that of males. Using genetic models and recent heritability studies, as well as selection differential, they concluded that the generational change in mean genotypic IQ is not more than one-third of an IQ point in this cohort and its offspring.

In a related study Retherford and Sewell (1989) conducted a path analysis of the effects of measured ability on fertility and found that higher education leads to lower fertility. This effect is strong among women, which explains why women's contribution to the fertility decline is greater than that of men.

For recent cohorts in the United States, about one half of all marriages are second marriages for at least one of the partners. Given this increasing trend of divorce and remarriage it is important to understand the socioeconomic determinants of remarriage for men and women. Sweeney (1997) focused on three theories of (re)marriage. Gary Becker's "gains to trade" model

of marriage views men and women as trading partners with specialized skills—women specialize in housework and men specialize in paid labor. Therefore, according to Becker, women with lower socioeconomic prospects and men with higher socioeconomic prospects will be more likely to enter marriage. The second theory Sweeney explores is the "relative income hypothesis" of Richard Easterlin. He suggests that couples will delay marriage until they have reached a threshold of economic security. Thus, unlike Becker's theory, Easterlin's model implies that good socioeconomic prospects of both men and women will increase entry into marriage. Finally, Oppenheimer's theory of the timing of marriage suggests that the primary effect of good socioeconomic prospects for men and women will be to delay marriage—allowing more time to find a suitable partner.

Sweeney (1997) finds that with few exceptions, socioeconomic prospects are not important predictors of male remarriage. However, women's socioeconomic prospects are crucial determinants of remarriage with the appropriate model of remarriage varying with the age of separation from the first husband. For younger women (around age 25), Becker's theory fits best; greater socioeconomic prospects of young women delay remarriage. However, for older women (around age 45), Easterlin's model fits best. For these women, increased socioeconomic prospects hasten remarriage. These two results also lend support to Oppenheimer's theory that socioeconomic prospects are related to timing of remarriage. Specifically, women separating at younger ages may use their good socioeconomic prospects to support a protracted search for a new husband, whereas older women may use their socioeconomic prospects to attract a mate. Sweeney highlights an important consequence of this pattern, that older women of lower socioeconomic status may be less likely to attract a mate, thereby increasing the concentration of poverty among divorced women.

Extensive research has been conducted on intergenerational mobility across two generations. However, far fewer studies have explored the impact of a third generation (grandparents) on social and economic outcomes. Warren and Hauser (1997) use WLS data to help address this shortcoming while also improving on prior analyses. Three limitations of previous research that Warren and Hauser (1997) overcome are (1) small samples or samples without relevant data; (2) ignoring the fact that children have two sets of grandparents; and (3) the potentially serious problem of measurement error in three-generation models. In these analyses, the parents of WLS graduates were the grandparents and WLS graduates were the parents.

Warren and Hauser (1997) first employed a series of regression analyses (ignoring measurement error). Several grandparent characteristics including education, occupational status and earnings had significant effects on grandchildren's occupational status, but only if parents' characteristics were not taken into account. Once parental variables were included, none of the characteristics of the grandparents had a significant effect on the grandchild's occupational status. These findings were unaltered when corrections were made for errors of measurement. Thus, two-generation models provide an adequate representation of social mobility processes.

Cognitive Ability and Its Consequences

American sociologists have spent considerable energy exploring the thesis that "America is the land of opportunity." Specifically, this area of social mobility research asks whether children have been able to move up in the social structure, i.e., have better occupations or more education, than their parents. Hauser, Warren, Huang and Carter (2000) synthesize trends in aggregate social mobility, occupational social standing, and the effects of social background and educational attainment on occupational standing. The data used for their trend analyses include

the 1962 and 1973 Occupational Changes in a Generation Surveys, the 1986-1988 Surveys of Income and Program Participation, and the 1972-1990 General Social Surveys. According to their research, there has been a decline in intergenerational status mobility of cohorts born after World War II. Much of this reduction is due to decreasing mobility after career entry. Although social background has some effect on occupational status, education alone explains most of the variability in occupational status. In addition, the effect of schooling on occupational status has remained relatively constant from 1962 to 1988. In general, each additional year of education up to high school graduation has had little impact on occupation status, but the returns to postsecondary school have remained high. One notable change in this trend is that high school graduation has had increasing returns in occupational status for young black men.

A key issue addressed by Hauser et al. (2000) is what role mental ability plays in the stratification process—specifically the impact of ability on occupational standing. The authors use data from the National Longitudinal Survey of Youth and from the Wisconsin Longitudinal Survey to address this question. Mental ability plays a significant, but secondary role in the occupational attainment of men and women. Educational attainment is the key variable affecting occupational success across the life course even after controlling social background, ability and other social psychological variables. Although occupational success is not dictated by ability, the authors do find that cognitive ability has a small, but persistent effect on occupational status throughout the careers of Wisconsin graduates. These results suggest that it is inappropriate to state that the "merit" associated with occupational mobility is a result of intelligence rather than education or other social psychological factors.

Hauser (1998) criticizes the authors of *The Bell Curve* (Herrnstein and Murray 1994; also, see Jensen 1980; Gottfredson 1997), for assertions that measured ability has been or is

increasingly the major determinant of occupational success in American Society. Occupations do vary in average levels of measured cognitive ability, but across several very large sets of data—including the Army studies of World War II, the General Social Survey, major Labor Department surveys, and the WLS—there is also ample overlap among diverse occupations in measured ability. Obversely, Hauser also chides sociologists for their predilection toward social structural variables and their neglect of ability and other social psychological variables in most research on social stratification and mobility. As demonstrated by the Wisconsin findings, among others, cognitive ability plays a key role in the determination of schooling, and, through schooling, on socioeconomic status in adult life.

Civic participation is widely recognized as a key component of democratic government. Social scientists have consistently stressed that education is a key determinant of civic participation. However, some have more recently suggested that cognitive ability, rather than education, is the key predecessor to civic engagement. Seth Hauser (2000) addresses these issues empirically by testing to what extent education acts as a proxy for cognitive ability in predicting good citizenship. He uses data from the 1976 American National Election Study (ANES), the 1974-1990 General Social Survey (GSS) and the 1975 Wisconsin Longitudinal Study (WLS). To assess civic involvement, Hauser examines both voting and participation in voluntary and community activities. Analyses of voting behavior using a poor ability measure in the ANES data provide inconclusive evidence that education is only a proxy for cognitive ability in predicting civic participation. However, analyses of the WLS and GSS, both of which contain good measures of ability, demonstrate that "education—independent of cognitive ability—unequivocally has a positive effect on both political and social participation." These results support the traditional view that education is the main determinant of civic participation.

Social Roles and Well Being

Historically, married people report higher levels of psychological well being than their unmarried counterparts. However demographic analyses indicate that adults now spend proportionately less of their adult lives married due to a variety of factors including lengthening of life expectancy, a trend toward later age at marriage, a higher rate of divorce, and a higher rate of nonmarriage. These factors make exploring the association between well being and marital status increasingly important. Marks (1996) builds on this research and overcomes some deficiencies in previous studies resulting from inadequate measures of mental health or positive well being. Marks finds that in general, single people in their 50s in the early 1990s continue to score worse than married people of the same age on a wide array of psychological well being measures. However, in some cases there are no differences in particular indicators of psychological well being between single and married people. Specifically, both separated/divorced and never-married men and women have greater psychological autonomy than their married counterparts. Separated and divorced women also score higher on personal growth relative to married women.

Marks (1996) directly tests the negative selection hypothesis, which suggests that psychologically and temperamentally healthier people are more likely to be desirable marriage partners and are therefore more likely to be married. She found evidence against the negative selection hypothesis: single women are generally more advantaged in mental ability and personality than married women. Finally, Marks (1996) tests the social causation hypothesis, which suggests that aspects of being married enhance psychological well being. She found that controlling for support of a non-kin confidant did not eliminate the relationship between well being and positive marriage characteristics—specifically household income and having a kin

confidant. These findings provide moderate support for social causation as an explanation of differences in well being by marital status.

The social changes we have just enumerated suggest that, although the number of people of needing personal care is likely to increase in the future, there will be fewer family members to provide this care. Marks (1998) set out to explore the psychological and physical consequences of caregiving for a disabled family member or friend. She compared caregivers and non-caregivers and examined how work-family conflict mediates the relationship between caregiving and well being.

Using data from the 1992 WLS telephone and mail surveys, Marks found that about one in eight adults in their 50s reported providing personal care for at least one month to a disabled relative or friend during the past year and about 1/3 of all WLS graduates provided at least one month of this type of care at some point in their life. While negative effects of caregiving were not ubiquitous, caregiving was associated with more psychological distress for women who were caring for a disabled child, spouse, or parent in or out of the household. Care for a disabled child and for a spouse were associated with poorer health for women. Among men, only spousal care was associated with negative well being. On the other hand, among men, providing care for someone other than an immediate family member was associated with less psychological distress, more positive relations with others, more purpose in life, and more personal growth. For women, caring for parents at home was associated with more positive relations with others and higher levels of purpose in life. Marks also found substantial evidence that caregivers experienced more work-family conflict than non-caregivers.

Midlife is often seen as a life stage where people assess their accomplishments and reflect on earlier goals. Past research has established that for men, fulfillment of youthful occupational

goals is associated with psychological health at midlife. However, less is known about this relationship for women. Carr (1997) used WLS data to explore whether a discrepancy between a woman's occupational aspirations (measured at age 35-36 in 1975) and her occupational attainment (measured at age 52-53 in 1992) influence her mental health—specifically depression and purpose in life.

Carr found that women who have achieved their occupational goals had higher levels of positive mental health (purpose in life) and lower levels of depression, although these relationships declined somewhat after family characteristics, health, and human capital qualities were controlled. For depression, the harmful effects of failing to meet one's goals decreased substantially when health characteristics were controlled, suggesting that the harmful effects of falling short may be partially explained by poor health. Interestingly, women who surpassed their goals did not experience any increased association with positive mental health or decreased association with depression. Carr (1997) also explored the mental health of women who reported no occupational aspirations at age 35/36. She found that the failure to report aspirations in 1975 was associated with lower levels of purpose in life in 1992, even after controlling for social background, human capital, family, and health characteristics. The combination of these results refute early claims that women in this age group possess a "fear of success" associated with competing against men in the labor force. To the contrary, pursuit and attainment of goals is associated with emotional well being in the 50s among women of the WLS.

College enrollment has been increasing, and one of the contributing factors is the growth of attendance by adults over 25 years of age. Between 1970 and 1990 full-time enrollment by adults over 25 increased 164% and for women this percentage was much higher, 477%. Carr and Sheridan (1999) used the Wisconsin Longitudinal Study to explore correlates of adult re-entry

into education. In their study they found that 19% of women and 12% of men returned to college after age 35 and that about 6% of women and 2% of men completed their degree. For women, divorce increased their rate of returning to school by 47% and earning a degree by 49%. Widowhood increased women's rate of returning to school by 55% and receiving a degree by 100%. Interestingly however, these factors did not significantly affect men's return to education. Women who were seeking new jobs at age 35 or who had involuntarily lost their longest-held job were more likely return to school. Although Carr and Sheridan (1999) found that adult women's decisions to return to school were linked with a wide variety of family events and personal aspirations, men's decisions to return to school were impacted largely by prior work experiences.

Seltzer and colleagues (2001) carried out a unique study of the well being of WLS graduates and siblings whose children were developmentally disabled or mentally ill. They identified the parents of such children from transcripts of the 1992 and 1993 interviews, and they compared the life trajectories and current health and well being of those parents with the general population. They strongly confirmed earlier findings, from less-representative data, that the co-dependence of parents and their disabled adult children had positive effects on parental well being. On the other hand, parents with mentally ill children had normative patterns of schooling, careers, and family life, but suffered from depression, physical symptoms, and excessive alcohol use.

Socioeconomic Status and Health

Research has consistently demonstrated an inverse relationship between social class position and mortality, with analyses of British civil servants establishing the latest strong evidence of this (Marmot et al. 1991; Marmot, Kogevinas, and Elston 1987). Marmot et al. (1997) extend this work by analyzing data from three large sample studies, Whitehall II (a study

of British civil servants), WLS, and the U.S. National Survey of Families and Households (NSFH). Combining these data sets provided new evidence on the generality of the social gradient in health across diverse samples and different indicators of socioeconomic status (SES). The authors employ four health measures for all three studies: self-perceived health, depression, psychological well being, and smoking. They use different SES measures for each study with occupational grade being used for Whitehall analyses, occupational status in 1975 used for the WLS, and years of education used for NSFH. All analyses demonstrate an SES gradient in health, with people of higher SES having better health. The evidence offered by Marmot et al. (1997) suggests that the SES gradient in health does not just apply to mortality. Rather, Marmot et al. (1997) find a SES gradient in morbidity as well as psychological well being.

The authors also explore the nagging question of indirect selection. This hypothesis suggests that both ill health and social position are caused by common factors early in life. By controlling for parental education, growing up in an intact family, IQ, and race the authors find that the relationship between SES and health is reduced, but only by a small amount. These results provide evidence against indirect selection and in support of the social gradient in health.

Along with the growth of interest in socioeconomic status and health, there has been renewed interest in the choice and measurement of class and status. Most analyses of health use educational attainment as a measure of socioeconomic status. Research shows that income is associated with health net of educational attainment, but it is not clear whether educational attainment and occupational status have independent relationships with health. Miech and Hauser (2001) used data from the 1992 follow-up of WLS graduates to address this question. For the most part, occupational standing does not have a strong association with health outcomes net of

educational attainment. The few exceptions include the physical symptoms of "aching muscles" for men and "excessive sweating" for women.

In addition, Miech and Hauser (2001) explored the relative power of different occupation-based measures—including several widely used measures of social class—to predict health outcomes. Occupational education was the one measure that had a strong relationship with some aspects of both men's and women's health, net of educational attainment. Occupational education was operationalized as the percentage of an occupation's incumbents who had one or more years of college education in the 1970 census. The results of Miech and Hauser's (2001) study suggest that while occupations may sometimes serve as an important mechanism linking education and health, the use of educational attainment as an SES indicator in health outcomes studies may be sufficient. The study also provides additional evidence that occupational education may outperform other measures of occupational status as an indicator of social standing.

The use of non-contraceptive hormone therapy has increased in the United States over the past two decades. One of the most significant predictors of non-contraceptive hormone therapy is SES, with higher rates of hormone therapy associated with higher household income. However, the association of education with hormone therapy is inconsistent. Marks and Shinberg (1998) explored the effects of a variety of SES indicators for predicting therapeutic hormone use by age 53-54 years. Nearly half of all women in the sample reported ever using non-contraceptive hormones. They compared women who had ever taken hormones with those who had not controlling for age at which periods stopped, reproductive organ surgery status, family variables, menopausal symptoms, health insurance, and health-related behaviors. Even after controlling for these multiple factors, many SES factors continued to predict hormone usage. The most robust

SES predictor of hormone therapy was a woman's husband's occupational status, where higher status was associated with higher rates of use. The authors discuss several possible explanations for this association, pointing to the socio-historical context in which hormone therapy was promoted. Specifically, some messages about hormone therapy promoted the drugs as promising "eternal beauty and femininity." Although these messages were more common 30 years ago, the authors contend that this link between non-contraceptive hormone therapy and the ideal of eternal beauty could nonetheless be driving the association between husband's occupational status and increased non-contraceptive hormone use.

Loss of natural estrogen associated with early menopause has been implicated in the process of bone loss, long-term development of osteoporosis, and cardiovascular disease. In addition, there is some evidence that women with early natural menopause tend to die at a younger age than women with later natural menopause. Previous studies have looked at the effect on age at menopause of socioeconomic status, educational attainment, smoking, number of children, and the use of non-contraceptive hormone therapy. Building on these studies, Shinberg (1998) uses data from the 1992 follow-up of the WLS graduates to examine the potential effect of education, mental ability, farm background, job history, smoking, number of children, age at first birth, hormone therapy, and an interaction of age with number of children on the risk of surgical and natural menopause. She finds that hormone therapy is positively associated with the risk of surgical menopause but negatively associated with the risk of natural menopause. Smoking is positively linked with the risk of natural menopause whereas higher levels of mental ability are associated with lower risks of natural menopause. Educational attainment is inversely related to both natural and surgical menopause. SES variables (education and employment history) often have an indirect rather than direct effect on the risk of menopause. Specifically,

SES impacts natural menopause through smoking, but it affects natural menopause through fertility.

Past studies have provided inconclusive evidence about family psychological resemblance. Some researchers point to genetics as a main source of shared depression symptoms whereas others assert that assortative mating and shared environment are at the root of any resemblance. Prior research suggests an inverse but weak association between SES and depression. MacLean and Hauser (2000) exploit several strengths of the WLS data to further examine these issues. Specifically, they use questions based on the Centers for Epidemiologic Studies Depression Subscale (CES-D) from the 1992 to 1994 surveys to compare sibling resemblance in current depression and to explore the link between several SES indicators and depression.

MacLean and Hauser (2000) find that education, income, and occupational status do not have a significant effect on depression for men or women. However, net worth is a significant predictor; increased net worth is associated with decreased depression. Also, the authors also find very little resemblance between siblings in current depressive states. The weak association supports the hypotheses that depression, at least as measured by the CES-D, is a situational quality, rather than an individual or family trait.

Methodological Contributions

It is difficult to separate the methodological from the substantive contributions of our research on the Wisconsin Models. From the first, our interests have been substantive, not methodological. However, a number of methodological publications have originated in the day-to-day work of the project or in our consideration of strategies for the analysis of stratification processes. Space does not permit discussion of these publications, but a brief

annotation may steer the reader to those of interest (see Table 6). They include techniques for locating and interviewing members of a panel; effects of non-response bias on univariate, bivariate, and multivariate statistics; the extent and nature of bias in information reported by respondents for other persons; comparability of results of multivariate models applied to state and national data sets; use of factor analysis in the construction of linear composites; effects of disaggregating indexes into their components; treatment of unobservable variables in path analysis; problems in contextual analysis; decomposition of effects in path analysis; development and uses of structural equation models; development of comparable data in national mobility studies; models for the study of sibling resemblance; methods for the analysis of social mobility tables; the specification and functional form of earnings regressions; the measurement of socioeconomic status; and methods for analysis of life-history data.

In this context, we also wish to mention the valuable work of Carol Ryff, Burt Singer, and their colleagues, who have undertaken innovative pilot studies of the interaction of psychological, biological, and social trajectories across the life course using a highly selected subsample of WLS graduates (Ryff and Singer 1996; Singer and Ryff 1996; Singer, Ryff, Carr, and Magee 1998; Ryff and Singer 2002).

AS WE AGE: RETIREMENT AND BEYOND

In the next stage of the project, we are planning surveys in 2002-03 of the WLS graduates and siblings; the graduates will be 63-64 years old when they are surveyed. Our goal is to bring together an interdisciplinary team of researchers who will extend, enrich, and complement our long-term observations of the WLS cohort in ways that will illuminate current research questions in aging and will anticipate issues that will arise in future years.

We will, of course, continue to obtain life histories of education, employment and retirement, job conditions, family change, stressful life events, and economic transfers, along with repeated measurements of health, wealth, and psychological well being. We will also look more deeply into the past of WLS participants by collecting data on the circumstances of their own birth and by adding to intriguing data on childhood abuse that were collected in the last round. We will obtain more extensive data on health-related behaviors—both those that are regarded as positive and those that carry substantial risks, like smoking and alcohol use. We plan to obtain extensive measures of social and civic engagement and of social isolation. We will look intensively at the effects of children’s problems and successes on their parents—including the effects of child disability, mental illness, or early death. We will obtain new and more extensive measures of cognitive functioning. We will obtain detailed data on insurance and pension coverage, and we will obtain medical, legal, religious, and psychological measures of preparation for the end of life.

As the WLS becomes a full-fledged study of aging, we hope to serve a very broad agenda of research and policy interests. These will range from the effects of childhood circumstances and work life on late adult health and well being, to the effects of children’s prospects on the life course of their parents, to differential access to health care services, to the behavioral precursors of high cognitive functioning and cognitive decline. No smaller agenda will justify the long-term investment that we, our fellow students and researchers, and our generous research participants have made in the Wisconsin Longitudinal Study.

APPENDIX

Publications: Wisconsin Longitudinal Study

[Items marked by an (*) are Citation Classics.]

A. Books, Articles, and Monographs

- Little, J. Kenneth. 1959. "A State-Wide Inquiry into Decisions of Youth About Education Beyond High School--Follow-Up Studies." Madison, WI: University of Wisconsin, School of Education.
- Little, J. Kenneth. 1959. "Explorations into the College Plans and Experiences of High School Graduates: A State-Wide Inquiry." Madison, WI: University of Wisconsin, School of Education.
- State Scholarship Committee. 1959. "College Scholarships in Wisconsin." Madison, WI: University of Wisconsin, School of Education.
- Sewell, William H. 1963. "The Educational and Occupational Perspectives of Rural Youth." In *Proceedings of the National Conference on Problems of Rural Youth in a Changing Environment*. Washington, D.C.: The National Committee for Children and Youth.
- Sewell, William H. 1964. "Community of Residence and College Plans." *American Sociological Review* 29 (February): 24-38.
- Little, J. Kenneth. 1965. "The Occupations of Non-College Going Youth." *Industrial Relations Research Institute Report No. 2*. Madison, WI: University of Wisconsin-Madison.
- Pavalko, Ronald M. 1965. "Aspirants to Teaching: Some Differences Between High School Senior Boys and Girls Planning on a Career in Teaching." *Sociology and Social Research* 50 (October): 47-62.
- Sewell, William H., and Archibald O. Haller. 1965. "Educational and Occupational Perspectives

- of Farm and Rural Youth." Pp 149-69 in *Rural Youth in Crisis: Facts, Myths, and Social Change*, ed. L. G. Burchinal. Washington, D.C.: Government Printing Office.
- Sewell, William H., and Alan W. Orenstein. 1965. "Community of Residence and Occupational Choice." *American Journal of Sociology* 70 (March): 551-63.
- Sewell, William H. 1965. "Social Structure and Occupational Outcome." Pp 20-25 in *Unexplored Aspects in the Development of Occupational Goals in Youth*, ed. B. Johnson. Eugene, OR: Center for Research and Occupational Planning.
- Sewell, William H. 1966. "Essay Review of Turner's 'The Social Context of Ambition'" *School Review* 74 (Summer): 231-40.
- Sewell, William H., and J. Michael Armer. 1966. "Neighborhood Context and College Plans." *American Sociological Review* 31 (April): 159-68.
- Sewell, William H., and J. Michael Armer. 1966. "Reply to Turner, Michael, and Boyle (On Neighborhood Context and College Plans [I], [II], [III])." *American Sociological Review* 31 (October): 707-12.
- Sewell, William H. 1967. "Review Symposium on Coleman et al., 'Equality of Educational Opportunity'" *American Sociological Review* 32 (June): 275-483.
- Sewell, William H., and Archibald O. Haller. 1967. "Occupational Choices of Wisconsin Farm Boys." *Rural Sociology* 32 (March): 37-55.
- Sewell, William H., and Vimal P. Shah. 1967. "Socioeconomic Status, Intelligence, and the Attainment of Higher Education." *Sociology of Education* 40 (Winter): 1-23.
- Pavalko, Ronald M., and Norma Nager. 1968. "Contingencies of Marriage to High-Status Men." *Social Forces* 41 (June): 521-31.
- Portes, Alejandro, Archibald O. Haller, and William H. Sewell. 1968. "Professional-Executive

- vs. Farming as Unique Occupational Choices." *Rural Sociology* 33 (June): 153-59.
- Sewell, William H., and Vimal P. Shah. 1968. "Social Class, Parental Encouragement, and Educational Aspirations." *American Journal of Sociology* 73 (March): 559-72.
- Sewell, William H., and Vimal P. Shah. 1968. "Parents' Education and Children's Educational Aspirations and Achievements." *American Sociological Review* 33 (April): 191-209.
- *Sewell, William H., Archibald O. Haller, and Alejandro Portes. 1969. "The Educational and Early Occupational Attainment Process." *American Sociological Review* 34 (February): 82-92.
- Hauser, Robert M. 1970. "Educational Stratification in the United States." *Sociological Inquiry* 40 (Spring): 102-29.
- Pavalko, Ronald M. 1970. "Recruitment to Teaching: Patterns of Selection and Retention." *Sociology of Education* 43 (Summer): 340-53.
- *Sewell, William H., Archibald O. Haller, and George W. Ohlendorf. 1970. "The Educational and Early Occupational Status Attainment Process: Replication and Revision." *American Sociological Review* 35 (December): 1014-27.
- Wegner, Eldon L., and William H. Sewell. 1970. "Selection and Context as Factors Affecting the Probability of Graduation from College." *American Journal of Sociology* 75 (January): 665-79.
- Hauser, Robert M., and Arthur S. Goldberger. 1971. "The Treatment of Unobservable Variables in Path Analysis." Pp 81-117 in *Sociological Methodology*, ed. H. Costner. San Francisco: Jossey-Bass.
- Sewell, William H. 1971. "Inequality of Opportunity for Higher Education." *American Sociological Review* 36 (October): 793-809.

- Shah, Vimal P., Tara Patel, and William H. Sewell. 1971. "Social Class and Educational Aspirations in an Indian Metropolis." *Sociological Bulletin* 20 (September): 113-33.
- Anderson, C. Arnold, Mary Jean Bowman, and Vincent Tinto. 1972. *Where Colleges Are and Who Attends: Effects of Accessibility on College Attendance*. New York: McGraw-Hill.
- Gasson, Ruth M., Archibald O. Haller, and William H. Sewell. 1972. *Attitudes and Facilitation in the Attainment of Status*. Washington, D.C.: American Sociological Association.
- Sewell, William H., and J. Michael Armer. 1972. "High School Context and College Plans: A Comment." *American Sociological Review* 37 (October): 637-39.
- Sewell, William H., and Robert M. Hauser. 1972. "Causes and Consequences of Higher Education: Models of the Status Attainment Process." *American Journal of Agricultural Economics* 54 (December): 851-61.
- Alwin, Duane F. 1973. "Making Inferences from Attitude-Behavior Correlations." *Sociometry* 36 (June): 253-78.
- Alwin, Duane F. 1973. "The Use of Factor Analysis in the Construction of Linear Composites in Social Research." *Sociological Methods and Research* 2 (November): 191-214.
- Hauser, Robert M. 1973. "Disaggregating a Social-Psychological Model of Educational Attainment." Pp 255-84 in *Structural Equation Models in the Social Sciences*, ed. A.S. Goldberger, and O.D. Duncan. New York: Seminar Press.
- Hauser, Robert M. 1973. "Socioeconomic Background and Differential Returns to Education." Pp 129-45 in *Does College Matter? Some Evidence on the Impacts of Higher Education*, ed. L.C. Solmon, and P.J. Taubman. New York: Academic Press.
- Pavalko, Ronald M., and Kenneth G. Lutterman. 1973. "Characteristics of Willing and Reluctant Respondents." *Pacific Sociological Review* (October): 463-76.

- Sewell, William H. 1973. "Foreword." Pp xi-xiv in *Does College Matter? Some Evidence on the Impacts of Higher Education*, ed. L. C. Solmon, and P. J. Taubman. New York: Academic Press.
- Sewell, William H. 1973. "Review Symposium on Jencks 'Inequality'" *American Journal of Sociology* 78 (May): 1532-40.
- Alwin, Duane F. 1974. "College Effects on Educational and Occupational Attainments." *American Sociological Review* 39 (April): 210-23.
- Featherman, David L., Robert M. Hauser, and William H. Sewell. 1974. "Toward Comparable Data on Inequality and Stratification: Perspectives on the Second Generation of National Mobility Studies." *The American Sociologist* 9 (February): 18-25.
- Hauser, Robert M. 1974. "Contextual Analysis Revisited." *Sociological Methods and Research* 2 (February): 365-75.
- Hauser, Robert M., and Peter J. Dickinson. 1974. "Inequality on Occupational Status and Income." *American Educational Research Journal* 11 (Spring): 161-68.
- *Alwin, Duane F., and Robert M. Hauser. 1975. "The Decomposition of Effects in Path Analysis." *American Sociological Review* 40 (February): 37-47.
- Hauser, Robert M., (with A.S. Goldberger). 1975. "Correction of 'The Treatment of Unobservable Variables in Path Analysis'" Pp 212-13 in *Sociological Methodology 1975*, ed. D.R. Heise. San Francisco: Jossey-Bass.
- *Sewell, William H., and Robert M. Hauser, et al. 1975. *Education, Occupation and Earnings: Achievement in the Early Career*. New York: Academic Press.
- Hauser, Robert M. 1976. "Methods and Costs of a 17-year Follow-up Study." Pp. 256-59 in 1976 *Proceedings of the Social Statistics Section*. Washington, D.C.: American Statistical

Association.

Hauser, Robert M., William H. Sewell, and Duane F. Alwin. 1976. "High School Effects on Achievement." Pp 309-41 in *Schooling and Achievement in American Society*, ed.

William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.

Sewell, William H., and Robert M. Hauser. 1976. "Recent Developments in the Wisconsin Study of Social and Psychological Factors in Socioeconomic Achievement." *Sociological Microjournal* 10. Copenhagen: Sociological Institute.

Sewell, William H., Robert M. Hauser, and David L. Featherman, eds. 1976. *Schooling and Achievement in American Society*. New York: Academic Press.

Bielby, William T., and Robert M. Hauser. 1977. "Structural Equation Models." Pp 137-61 in *1977 Annual Review of Sociology*. Palo Alto: Annual Reviews.

Clarridge, Brian R., Linda L. Sheehy, and Taissa S. Hauser. 1977. "Tracing Members of a Panel: A 17-year Follow-up." In *Sociological Methodology 1978*, ed. K. F. Schuessler. San Francisco: Jossey-Bass.

Hauser, Robert M., and Thomas N. Daymont. 1977. "Schooling, Ability, and Earnings: Cross-sectional Evidence 8 to 14 Years After High School Graduation." *Sociology of Education* 50 (July): 182-206.

Sewell, William H., and Robert M. Hauser. 1977. "On the Effects of Families and Family Structure on Achievements." Pp 255-83 in *Kinometrics: The Determinants of Educational Attainment, Mental Ability, and Occupational Success Within and Between Families*, ed. P. Taubman. Amsterdam: North Holland.

Sewell, William H., and Robert M. Hauser. 1977. "The Class of 1957--Eighteen Years After

- Graduation from High School." Madison, WI: University of Wisconsin-Madison, Center for Demography and Ecology.
- Treiman, Donald J., and Robert M. Hauser. 1977. "The Intergenerational Transmission of Income." Pp 271-302 in *The Process of Stratification*, ed. R. M. Hauser, and D. L. Featherman. New York: Academic Press.
- Fligstein, Neil D., and Wendy C. Wolf. 1978. "Sex Similarities in Occupational Status Attainment: Are the Results Due to the Restriction of the Sample to Women?" *Social Science Research* 7 (June): 197-212.
- Hauser, Robert M. 1978. "Comment on Sorenson and Hallinan: 'A Reconceptualization of School Effects'" *Sociology of Education* 51 (January): 68-72.
- Hauser, Robert M. 1978. "A Structural Model of the Mobility Table." *Social Forces* 56 (March): 919-53.
- Sewell, William H. 1978. "Social Mobility and Social Participation." *The Annals of the American Academy of Political and Social Sciences* 435 (January): 226-47.
- Wolf, Wendy C., and Rachel Rosenfeld. 1978. "Sex Structure of Occupations and Job Mobility." *Social Forces* 56 (March): 823-44.
- Hauser, Robert M. 1979. "Some Exploratory Methods for Modeling Mobility Tables and other Cross-Classified Data." Pp 4138-458 in *Sociological Methodology 1980*, ed. K. F. Schuessler. San Francisco: Jossey-Bass.
- Hauser, Robert M. 1979 (forthcoming). "The Earnings Trajectories of Young Men." In *Social Stratification in Japan and the U.S.*, ed. D. Treiman, and K. Tominaga. (Available as CDE Working Paper 79-24. Revised July 1982. Center for Demography and Ecology, University of Wisconsin-Madison.)

- Wolf, Wendy C., and Neil D. Fligstein. 1979. "Sex and Authority in the Work Place." *American Sociological Review* 44 (April): 235-52.
- Wolf, Wendy C., and Neil D. Fligstein. 1979. "Sexual Stratification: Differences in Power in the Work Setting." *Social Forces* 58 (September): 94-107.
- Wolf, Wendy C., and Maurice MacDonald. 1979. "The Earnings of Men and Remarriage." *Demography* 16 (August): 389-400.
- Hauser, Robert M. 1980. "Comment on Beck, Horan, and Tolbert 'On Stratification in a Dual Economy'" *American Sociological Review* 45 (August): 702-12.
- Sewell, William H., and Robert M. Hauser. 1980. "The Wisconsin Longitudinal Study of Social and Psychological Factors in Aspirations and Achievements." Pp 59-99 in *Research in Sociology and Education*, vol. 1, ed. A. C. Kerckhoff. Greenwich, CN: JAI Press.
- Sewell, William H., Robert M. Hauser, and Wendy C. Wolf. 1980. "Sex, Schooling and Occupational Status." *American Journal of Sociology* 86 (November): 551-83.
- Wang, Charlotte Shiang Yun, and William H. Sewell. 1980. "Residence, Migration, and Earnings." *Rural Sociology* 45 (Summer): 185-206.
- Hauser, Robert M. 1981. "Hope for the Mobility Ratio." *Social Forces* 60 (December): 572-84.
- Hauser, Robert M. 1981. "The Structure of Social Relations: Cross-Classifications of Mobility, Kinship, and Friendship." *I.H.S. Journal* 5: 1-51.
- Janssen, Susan, and Robert M. Hauser. 1981. "Religion, Socialization, and Fertility." *Demography* 18 (November): 511-28.
- MacDonald, Maurice, and Ronald R. Rindfuss. 1981. "Earnings, Relative Income, and Family Formation." *Demography* 18 (May): 123-36.
- Massagli, Michael, and Robert M. Hauser. 1981. "Response Variability in Reports of

- Socioeconomic Data." 1981 Proceedings of the Social Statistics Section. Washington, D.C., American Statistical Association.
- Sewell, William H. 1981. "Notes on Educational, Occupational, and Economic Achievement in American Society." *Phi Delta Kappan* 62 (January): 322-25.
- Stryker, Robin. 1981. "Religio-Ethnic Effects Upon Attainments in the Early Career." *American Sociological Review* 46 (April): 212-31.
- Williams, Richard, and Robert M. Hauser. 1981. "Peer Influence Versus Peer Selection: An Attempted Separation." Center for Demography and Ecology Working Paper 81-20. Madison, WI: University of Wisconsin--Madison.
- Hauser, Robert M. 1982. "Occupational Status in the 19th and 20th Centuries." *Historical Methods* 15(3)(Summer): 111-26.
- Hauser, Robert M., William H. Sewell, and Brian R. Clarridge. 1982. "The Influence of Family Structure on Socioeconomic Achievement: A Progress Report." Center for Demography and Ecology Working Paper 82-59. Madison, WI: University of Wisconsin--Madison.
- Symonette, Hazel B. 1982. "Does Type of College Attended Matter? Decomposing the College-Earnings Association." Center for Demography and Ecology Working Paper 82-19. Madison, WI: University of Wisconsin--Madison.
- Grusky, David B. 1983. "Who Gets Prestige, Power, Property, and Privileged Industry Location? Allocation to a Multidimensional Structure of Inequality." Center for Demography and Ecology Working Paper 83-47. Madison, WI: University of Wisconsin--Madison.
- Hauser, Robert M., and Michael Massagli. 1983. "Some Models of Agreement and Disagreement in Repeated Measurements of Occupation." *Demography* 20 (November): 449-60.
- Hauser, Robert M., Shu-Ling Tsai, and William H. Sewell. 1983. "A Model of Stratification with

- Response Error in Social and Psychological Variables." *Sociology of Education* 56 (January): 20-46.
- Hodson, Randy. 1983. *Workers' Earnings and Corporate Economic Structure*. New York: Academic Press.
- Massagli, Michael, and Robert M. Hauser. 1983. "Response Variability in Self and Proxy Reports of Paternal and Filial Socioeconomic Characteristics." *American Journal of Sociology* 89 (September): 420-31.
- Sorensen, Annemette. 1983. "Children and Their Mother's Careers." *Social Science Research* 12 (March): 26-43.
- Sorensen, Annemette. 1983. "Women's Employment Patterns After Marriage." *Journal of Marriage and Family* 45 (May): 311-22.
- Grusky, David B., and Robert M. Hauser. 1984. "Comparative Social Mobility Revisited: Models of Convergence and Divergence in 16 Countries." *American Sociological Review* 49 (February): 19-38.
- Hauser, Robert M. 1984. "Some Cross-Population Comparisons of Family Bias in the Effects of Schooling and Occupational Status." *Social Science Research* 13 (June): 159-87.
- Hauser, Robert M. 1984. "Vertical Class Mobility in England, France, and Sweden." *Acta Sociologica* 27: 387-90.
- Hodson, Randy. 1984. "Companies, Industries, and the Measurement of Economic Segmentation." *American Sociological Review* 49 (June): 335-48.
- Hodson, Randy. 1984. "Corporate Structure and Job Satisfaction: A Focus on Employer Characteristics." *Sociology and Social Research* (October): 22-49.
- Janssen, Susan. 1984. "Status Aspirations for Children: Do Parents Really Know What They

- Want?" Center for Demography and Ecology Working Paper 84-1. Madison, WI: University of Wisconsin--Madison.
- Hauser, Robert M., and Peter M. Mossel. 1985. "Fraternal Resemblance in Educational Attainment and Occupational Status." *American Journal of Sociology* 91 (November): 650-73.
- Hauser, Robert M., and William H. Sewell. 1985. "Birth Order and Educational Attainment in Full Sibships." *American Educational Research Journal* 32 (Spring): 1-23.
- Hodson, Randy. 1985. "Some Considerations Concerning the Functional Form of Earnings." *Social Science Research* 14 (374-394).
- Hodson, Randy. 1985. "Workers' Comparisons and Job Satisfaction." *Social Science Quarterly* 66,2 (June): 266-280.
- Hauser, Robert M., and William H. Sewell. 1986. "A Child's Garden of Equations: Comment on Alexander and Pallas." *Social Forces* 65 (September): 241-49.
- Hauser, Robert M., and William H. Sewell. 1986. "Family Effects in Simple Models of Education, Occupational Status, and Earnings: Findings from the Wisconsin and Kalamazoo Studies." *Journal of Labor Economics* 4 (Spring): S83-S115.
- Hauser, Robert M., and Peter A. Mossel. 1987. "Some Structural Equation Models of Sibling Resemblance in Educational Attainment and Occupational Status." In *Structural Modeling by Example: Applications in Education and the Social and Behavioral Sciences*. Cambridge: Cambridge University Press.
- Hodson, Randy, and Patricia Seitz. 1987. "Identifying Workers' Industries: Survey Responses versus Corporate Product Lines." *Social Science Research* 16,2 (June): 154-168.
- Hauser, Robert M. 1988. "A Note on Two Models of Sibling Resemblance." *American Journal*

- of *Sociology* 93 (May): 1401-23.
- Hodson, Randy, and Patricia Seitz. 1988. "Outside Ownership and Workers' Earnings and Tenure." *Sociological Quarterly* 29 (Spring): 63-81.
- Retherford, Robert D., and William H. Sewell. 1988. "Intelligence and Family Size Reconsidered." *Social Biology* 35 (Spring and Summer): 1-40.
- Sewell, William H. 1988. "The Changing Institutional Structure of Sociology and My Career." Pp. 119-43 in M.W. Riley (ed.), *Sociological Lives: Social Change and the Life Course*, Vol. 2. Newbury Park, Calif.: Sage Publications.
- Hauser, Robert M. 1989. "Judith Blake, 'Family Size and Achievement'," *Population and Development Review* 15 (September): 561-67.
- Hauser, Robert M., and Raymond Sin-Kwok Wong. 1989. "Sibling Resemblance and Inter-sibling Effects in Educational Attainment." *Sociology of Education* 62 (July): 149-71.
- Hodson, Randy. 1989. "Gender Difference in Job Stratification: Why Aren't Women More Dissatisfied?" *Sociological Quarterly* 30 (Fall): 385-99.
- Retherford, Robert D., and William H. Sewell. 1989. "How Intelligence Affects Fertility." *Intelligence* 11 (April-June): 169-85.
- Sewell, William H. 1989. "Some Reflections on the Golden Age of Social Psychology." *Social Psychology Quarterly* 52 (June): 88-97. Also, Pp. 1-16 in *Annual Review of Sociology* 15. Palo Alto, Calif.: Annual Reviews, Inc.
- Hauser, Robert M., Gerald D. Jaynes, and Robin M. Williams, Jr. 1990. "Understanding Black-White Differences." *The Public Interest* 99 (Spring): 110-119.
- Allison, Paul D., and Robert M. Hauser. 1991. "Reducing Bias in Estimates of Linear Models by Remeasurement of a Random Subsample." *Sociological Methods and Research* 19

(May): 466-92.

Hauser, Robert M. 1991. "Reply to Michael Gillespie's Comment on Models of Sibling Resemblance." *American Journal of Sociology* 97 (July): 206-9.

Hauser, Robert M. 1991. "What Happens to Youth after High School?" *Focus* 13 (Fall-Winter): 1-13.

Hauser, Robert M., and Douglas K. Anderson. 1991. "Post-High School Plans and Aspirations of Black and White High School Graduates: What Has Changed Since the Mid-1970s?" *Sociology of Education* 64 (October): 263-277.

Retherford, Robert D., and William H. Sewell. 1991. "Birth Order and Intelligence: Further Tests of the Confluence Model." *American Sociological Review* 56 (April): 141-58.

Zajonc, R. B., Markus, G. B., Berbaum, M. L., Bargh, J. A., and others. 1991. "One justified criticism plus three flawed analyses equals two unwarranted conclusions: A reply to Retherford and Sewell." *American Sociological Review*, Vol 56(2), 159-165.

Hauser, Robert M., and John A. Logan. 1992. "How Not to Measure Occupational Inheritance." *American Journal of Sociology* 97 (May 1992): 1689-1711.

Hauser, Robert M., William H. Sewell, John A. Logan, Taissa S. Hauser, Carol Ryff, Avshalom Caspi, and Maurice M. MacDonald. 1992. "The Wisconsin Longitudinal Study: Adults as Parents and Children at Age 50." *IASSIST Quarterly* 16 (1/2) (Spring-Summer 1992): 23-38.

Hout, Michael, and Robert M. Hauser. 1992. "Symmetry and Hierarchy in Social Mobility: A Methodological Analysis of the CASMIN Model of Class Mobility," *European Sociological Review* 8 (December 1992): 239-66.

Retherford, Robert D., and William H. Sewell. 1992. "Four Erroneous Assertions Regarding the

- Accuracy of the Confluence Model." *American Sociological Review* 57 (February): 136-37.
- Sewell, William H., and Robert M. Hauser. 1992. "The Influence of Blau and Duncan's The American Occupational Structure on the Wisconsin Model." *Contemporary Sociology* 21 (September): 598-603.
- Sewell, William H., and Robert M. Hauser. 1992. "The Wisconsin Longitudinal Study of Social and Psychological Factors in Aspiration and Achievement." Available as CDE Working Paper 92-01. Center for Demography and Ecology, University of Wisconsin-Madison.
- Hauser, Robert M. 1993. "The Decline in College Entry among African Americans: Findings in Search of Explanations." Pp. 271-306 in Paul Sniderman, Philip Tetlock, and Edward Carmines (eds.) *Prejudice, Politics, and the American Dilemma*. Stanford, California: Stanford University Press.
- Hauser, Robert M. 1993. "Trends in College Entry among Whites, Blacks, and Hispanics: 1972-1988," Pp. 61-104 in Charles Clotfelter and Michael Rothschild (eds.) *Studies of Supply and Demand in Higher Education*. Chicago: The University of Chicago Press.
- Hauser, Robert M. 1994. "Measuring Socioeconomic Status in Studies of Child Development," *Child Development* 65 (December): 1541-45.
- Hauser, Robert M., Deborah Carr, Taissa S. Hauser, Jeffrey Hayes, Margaret Krecker, Hsiang-Hui Daphne Kuo, William Magee, John Presti, Diane Shinberg, Megan Sweeney, Theresa Thompson-Colon, S.C. Noah Uhrig, and John Robert Warren. 1994. "The Class of 1957 after 35 Years: Overview and Preliminary Findings." Available as CDE Working Paper 93-17. Center for Demography and Ecology, University of Wisconsin-Madison.
- Hauser, Robert M. 1995. "Better Rules for Better Decisions" (An invited commentary on Adrian

- E. Raftery, "Bayesian Model Selection in Social Research") Pp. 175-183 in Peter V. Marsden (ed.) *Sociological Methodology* 1995. Cambridge: Basil Blackwell.
- Hauser, Robert M. 1995. "On The Bell Curve," *Contemporary Sociology* 24 (March): 149-53.
- Hauser, Robert M. 1995. "The Wisconsin Longitudinal Study: Adults at Midlife as Parents, Children, and Siblings" *ICPSR Bulletin XVI* (December):1-5.
- Kuo, Hsiang-Hui Daphne, and Robert M. Hauser. 1995. "Trends in Family Effects on the Education of Black and White Brothers." *Sociology of Education* 68 (April): 136-60.
- Hauser, Robert M., Taissa S. Hauser, Deborah Carr, and Jennifer T. Sheridan. 1996. "Wisconsin's Class of 1957 and Their Families in the 1990's." Available as CDE Working Paper 96-12. Center for Demography and Ecology, University of Wisconsin-Madison.
- Kuo, Hsiang-Hui Daphne, and Robert M. Hauser. 1996. "Gender, Family Configuration, and the Effect of Family Background on Educational Attainment." *Social Biology* 43 (Spring-Summer):98-131.
- Logan, John Allen. 1996. "Opportunity and Choice in Socially Structured Labor Markets." *American Journal of Sociology* 102 (July):114-160.
- Logan, John Allen. 1996. "Rational Choice and the TSL Model of Occupational Opportunity." *Rationality and Society* 8 (2;May): 207-230.
- Logan, John Allen. 1996. "Rules of Access and Shifts in Demand: A Comparison of Log-Linear and Two-Sided Logit Models." *Social Science Research* (June):174-199.
- Marks, Nadine F. 1996. "Flying Solo at Midlife: Gender, Marital Status, and Psychological Well-Being." *Journal of Marriage and the Family* 58 (November):917-932.
- Marks, Nadine F. 1996. "Socioeconomic Status, Gender, and Health at Midlife: Evidence from

- the Wisconsin Longitudinal Study." Pp. 135-52 in Jennie Jacobs Kronenfeld (ed.),
 Research in the Sociology of Health Care, Vol. 13(Part A). Greenwich, CN: JAI Press.
- Ryff, Carol D., and Burton Singer. 1996. "Psychological well-being: Meaning, Measurement,
 and Implications for Psychotherapy Research." *Psychotherapy and Psychosomatics* 65:
 14-23.
- Carr, Deborah. 1997. "The Fulfillment of Career Dreams at Midlife: Does It Matter for Women's
 Mental Health?" *Journal of Health and Social Behavior* 38(4):331-344.
- Hauser, Robert M., and Megan M. Sweeney. 1997. "Does Adolescent Poverty Affect the Life-
 Chances of High School Graduates?" Pp. 541-595 in Greg Duncan and Jeanne Brooks-
 Gunn (eds.) *Consequences of Growing Up Poor*. New York: Russell Sage Foundation.
- Hauser, Robert M., and John Robert Warren 1997. "Social Stratification Across Three
 Generations: New Evidence from the Wisconsin Longitudinal Study." *American
 Sociological Review* 62(August 1997): 561-572.
- Hauser, Robert M., and John Robert Warren. 1997. "Socioeconomic Indexes for Occupations: A
 Review, Update, and Critique." Pp. 177-298 in Adrian E. Raftery (ed.) *Sociological
 Methodology* 1997.
- Kuo, Hsiang-Hui Daphne, and Robert M. Hauser. 1997. "How Does Size of Sibship Matter?
 Family Configuration and Family Effects on Educational Attainment." *Social Science
 Research* 26(March): 69-94.
- Marks, Nadine F., and Diane S. Shinberg. 1997. "Socioeconomic Differences in Hysterectomy:
 The Wisconsin Longitudinal Study." *American Journal of Public Health* 87: 1507-1514.
- Marmot, Michael G., Carol D. Ryff., Larry L. Bumpass, Martin Shipley, and Nadine Marks.
 1997. "Social Inequalities in Health: Next Questions and Converging Evidence." In

- Social Science and Medicine 44: 901-910.
- Singer, Burton, and Carol D. Ryff. 1997. "Racial and Ethnic Inequality in Health: Environmental, Psychosocial, and Physiological Pathways." Pp. 89-122 in B. Devlin, S. E. Fienberg, D. P. Resnick, and K. Roeder, eds. *Intelligence, Genes, and Success: Scientists Respond to "The Bell Curve"*. New York: Springer-Verlag.
- Sweeney, Megan M. 1997. "Remarriage of Women and Men After Divorce: The Role of Socioeconomic Prospects." *Journal of Family Issues* (Sept)18: 479-502.
- Hauser, Robert M., and Hsiang-Hui Daphne Kuo. 1998. "Does the Gender Composition of Sibships Affect Educational Attainment?" *Journal of Human Resources* 33(Summer): 644-657.
- Hauser, Robert M., Kirsten K. West, and Terri M. Scanlon eds. 1998. "Longitudinal Surveys of Children." National Academy of Sciences-National Research Council, Commission on Behavioral and Social Sciences and Education, Committee on National Statistics. Washington, D.C.: National Academy Press.
- Hauser, Robert M. 1998. "Mental Ability and the Sources of Occupational Success." Proceedings of the Research Committee on Social Stratification, International Sociological Association, Taipei, Taiwan, January, 1998.
- Logan, John Allen. 1998. "Estimating Two-Sided Logit Models." Pp. 139-173 in Adrian E. Raftery, ed., *Sociological Methodology* 1998. Boston, MA: American Sociological Association and Blackwell Publishers.
- Marks, Nadine F., and Diane S. Shinberg. 1998. "Socioeconomic Status Differences in Hormone Therapy" *American Journal of Epidemiology* 148 (6): 581-593. Available as CDE Working Paper 97-02. Center for Demography and Ecology, University of Wisconsin-

Madison.

Marks, Nadine F. 1998. "Does It Hurt to Care? Caregiving, Work-Family Conflict, and Midlife Well-Being." *Journal of Marriage and the Family* 60 (November) 951-966. Also available as CDE Working Paper 95-02. Center for Demography and Ecology, University of Wisconsin-Madison.

Marks, Nadine F., and James David Lambert. 1998. "Marital Status Continuity and Change Among Young and Midlife Adults." *Journal of Family Issues* 19 (6): 652-686.

Ryff, Carol D., and Burton Singer. 1998. "The Contours of Positive Human Health." *Psychological Inquiry* 9: 1-28.

Ryff, Carol D., and Burton Singer. 1998. "Human Health: New Directions for the Next Millennium." *Psychological Inquiry* 9: 69-85.

Ryff, Carol D. 1998. "Life Course Profiles of Positive Mental Health in Women." Pp. 183-188 in E. Blechman and K. Brownell (eds.) *Behavioral Medicine for Women: a Comprehensive Handbook* (Pp.183-188). New York: Guilford

Ryff, Carol D., and Burton Singer. 1998. "Middle Age and Well-being." Pp. 707-719 in H. S. Friedman (ed.) *Encyclopedia of Mental Health*. San Diego, CA: Academic Press.

Ryff, Carol D., Burton Singer, Gayle D. Love, and M. J. Essex. 1998. "Resilience in Adulthood and Later Life: Defining Features and Dynamic Processes." Pp. 69-96 in J. Lomranz (ed.) *Handbook of Aging and Mental Health*. New York: Springer-Verlag.

Ryff, Carol D., and Burton Singer. 1998. "The Role of Purpose in Life and Personal Growth in Positive Human Health." Pp. 213-235 in P.T.P. Wong and P.S. Fry (eds.) *the Human Quest for Meaning: a Handbook of Psychological Research and Clinical Applications*. Mahwah, NJ: Lawrence Earlbaum Associates.

- Shinberg, Diane S. 1998. "An Event History Analysis of Age at Last Menstrual Period: Correlates of Natural and Surgical Menopause among Mid-Life Wisconsin Women." *Social Science and Medicine* 46(10):1381-1396. Also available as CDE Working Paper 95-18 (revised February 1997). Center for Demography and Ecology, University of Wisconsin-Madison.
- Singer, Burton, Carol D. Ryff, Deborah S. Carr, and William J. Magee. 1998. "Linking Life Histories and Mental Health: a Person-Centered Strategy." Pp. 1-51 in A. Raftery (ed.) *Sociological Methodology*, 1998. Washington, D.C.: American Sociological Association.
- Warren, John Robert, Jennifer T. Sheridan, and Robert M. Hauser. 1998. "Choosing a Measure of Occupational Standing: How Useful are Composite Measures in Analyses of Gender Inequality in Occupational Attainment?" *Sociological Methods and Research* 27 (August): 3-76. Also available as CDE Working Paper 96-10. Center for Demography and Ecology, University of Wisconsin-Madison.
- Dey, Eric L., Leslie A. Wimsatt, Byung-Shik Rhee, and Ellen Waterson Meader. 1999. "Long-Term Effect of College Quality on the Occupational Status of Students." Working Paper NCPI-5-06 of the National Center for Postsecondary Improvement, Stanford University, School of Education.
- Green, Doris S. 1999. "Mature Women Seek Education When Relationships End." *Women in Higher Education*, June, 21-22.
- Hauser, Robert M., Jennifer Sheridan, and John Robert Warren. 1999. "Socioeconomic Achievements of Siblings in the Life Course: New Findings from the Wisconsin Longitudinal Study." *Research on Aging* 21 (February): 338-378.

- Ryff, Carol D., William J. Magee, K. C. Kling, and E. H. Wing. 1999. "Forging Macro-Microlinkages in the Study of Psychological Well-being." Pp. 247-278 in Carol D. Ryff and V. W. Marshall, (eds.) *The Self and Society in Aging Processes*. New York: Springer.
- Singer, Burton, and Carol D. Ryff, 1999. "Hierarchies of Life Histories and Associated Health Risks." Pp. 96-155 in N.E. Adler, M. Marmot, B.S. McEwen, and J. Stewart (eds.) *Socioeconomic Status and Health in Industrialized Nations*. *Annals of the New York Academy of Sciences* 896: 96-115.
- Hauser, Seth M. 2000. "Education, Ability, and Civic Engagement in the Contemporary United States." *Social Science Research* 29 No.4 (December): 556-582.
- Hauser, Robert M., John Robert Warren, Min-Hsiung Huang, and Wendy Y. Carter. 2000. "Occupational Status, Education, and Social Mobility in the Meritocracy." Pp. 179-229 in K. Arrow, S. Bowles, and S. Durlauf, eds. *Meritocracy and Inequality*. Princeton: Princeton University Press. Also available as CDE Working Paper 96-18. Center for Demography and Ecology, University of Wisconsin-Madison.
- Ryff, Carol D., and Burton Singer, 2000. "Interpersonal Flourishing: A Positive Health Agenda for the New Millennium." *Personality and Social Psychology Review* 4: 30-44.
- Carr, Deborah and Jennifer Sheridan. 2001. "Family Turning Points and Career Transitions at Midlife." Pp. 201-227 in *Restructuring Work and the Life Course*, edited by Victor W. Marshall, Walter R. Heinz, Helga Krueger, and Anil Verma. Toronto: University of Toronto Press.
- Miech, Richard A., and Robert M. Hauser. 2001. "Socioeconomic Status (SES) and Health at Midlife: A Comparison of Educational Attainment with Occupation-Based Indicators."

- Annals of Epidemiology 11(February):75-84. Also available as CDE Working Paper No. 98-06, Center for Demography and Ecology, University of Wisconsin-Madison.
- Seltzer, M.M., Greenberg, J.S., Floyd, F.J., Pettee, Y., Hong, J., 2001. "Life course impacts of parenting a child with a disability." American Journal on Mental Retardation, 106:282-303.
- Huang, Ming-Hsiung. 2001. "Cognitive Abilities and the Growth of High- IQ Occupations." Social Science Research, 30:529-551.
- Ryff, Carol D., Burton Singer, Edgar Wing, and Gayle Dienberg Love. In press. "Elective Affinities and Uninvited Agonies: Mapping Emotion With Significant Others onto Health." In Carol D. Ryff and Burton Singer, eds. Emotion, Social Relationships, and Health. New York: Oxford University Press.
- Ryff, Carol D., and Burton H. Singer. In press. "The Role of Emotion on Pathways to Positive Health." In R. J. Davidson, H. H. , and K Scherer, eds. Handbook of Affective Science. New York: Oxford University Press.

B. Dissertations

- Armer, J. Michael. 1964. "Community and School Environments and College Plans of Public High School Seniors." Diss. University of Wisconsin--Madison.
- Heath, B.R.G. 1965. "The Prediction of Occupational Status for Non-College Going High School Graduates." Diss. University of Wisconsin--Madison.
- Shah, Vimal P. 1965. "Social Class and Aspirations of Wisconsin Boys." Diss. University of Wisconsin--Madison.
- Cook, Walter R. 1966. "Factors Associated with the Occupational Choices of Young Men." Diss. University of Wisconsin--Madison.

- Wegner, Eldon L. 1967. "The Relation of College Characteristics to Graduation." Diss. University of Wisconsin--Madison.
- Tuckman, Howard P. 1969. "A Study of College Choice, College Location, and Future Earnings: Two Economic Models of College Choice." Diss. University of Wisconsin--Madison.
- Orenstein, Alan M. 1970. "Community of Origin, Migration, and Occupational Achievement: A Study of Wisconsin Students." Diss. University of Wisconsin--Madison.
- Alwin, Duane F. 1972. "College Effects on Educational and Socioeconomic Achievements." University of Wisconsin--Madison. Diss.
- Jesudason, Victor. 1972. "Socioeconomic Background and Educational Attainment of High Ability Wisconsin High School Students." Diss. University of Wisconsin--Madison.
- Campbell, Richard T. 1973. "Non-Intellective Factors in College Graduation: A Study of Social Mobility." Diss. University of Wisconsin--Madison.
- Nilson, Linda B. 1974. "The Occupational and Sex Related Components of Social Standing." Diss. University of Wisconsin--Madison.
- Ellegaard, Dorothy M. 1975. "Intergenerational Transmission of Economic Status: Parental Income, Education and Early Career Earnings Among 1957 Male Wisconsin High School Graduates." Diss. University of Wisconsin--Madison.
- Voss, Paul R. 1975. "Social Determinants of Age at First Marriage in the United States." Diss. University of Michigan.
- Yang, Charlotte W. 1976. "The Influence of Residence and Migration on Socioeconomic Achievement." Diss. University of Wisconsin--Madison.
- Spenner, Kenneth I. 1977. "From Generation to Generation: The Transmission of Occupation." Diss. University of Wisconsin--Madison.

- Dunton, Nancy E. 1979. "Occupational and Marital Mobility: Alternative Pathways of Social Mobility." Diss. University of Wisconsin--Madison.
- Hodson, Randy. 1980. "The Social Impact of Industrial Structure on Working Conditions." Diss. University of Wisconsin--Madison.
- Snipp, C. Matthew. 1981. "The Structure of Mobility: An Alternative Approach to Social Mobility and Achievement." Diss. University of Wisconsin--Madison.
- Janssen, Susan G. 1982. "The Development of Parents' Aspirations." Diss. University of Wisconsin--Madison.
- Clarridge, Brian R. 1983. "From Family of Orientation to Family of Procreation." Diss. University of Wisconsin--Madison.
- Mossel, Peter A. 1983. "Family Effects on the Returns to Education: Theory and Estimation." Diss. University of Wisconsin--Madison.
- Tsai, Shu-Ling. 1983. "Sex Differences in the Process of Stratification." Diss. University of Wisconsin--Madison.
- Massagli, Michael P. 1984. "Trends in Social Mobility and Fertility in the United States." Diss. University of Wisconsin--Madison.
- Kuo, Hsiang-Hui Daphne. 1995. "Families in the Process of Educational Attainment: Studies of Sibling Resemblance." Diss. University of Wisconsin--Madison.
- Min-Hsiung Huang. 1996. "Historical Changes in the Effects of Verbal Ability on Socioeconomic Success in the United States. Diss. University of Wisconsin--Madison.
- Carr, Deborah. 1997. "The Fulfillment of Career Goals Over the Life Course and Midlife Mental Health." Diss. University of Wisconsin--Madison.
- Warren, John Robert. 1998. "A Life-Course Perspective On The Process of Occupational

- Attainment." Diss. University of Wisconsin--Madison.
- Hyo Park, 1999. "Migration: The Impact of Earnings, Life Events, and Labor Market Conditions." Diss. School of Social Sciences, University of Texas at Dallas.
- Freese, Jeremy. 2000. "What Should Sociology Do About Darwin?: Evaluating Some Potential Contributions of Sociobiology and Evolutionary Psychology to Sociology." Diss. Indiana University.
- Peikes, Deborah N. 2000. "Psycho-Social Determinants of Midlife Health: A Person-Centered Approach." Diss. Princeton University.
- Shinberg, Diane S. 2001. "Sex and Sickness: Gender and Socioeconomic Inequalities in Adult Health." Diss. University of Wisconsin-Madison.
- Sheridan, Jennifer T. 2001. "Occupational Attainment Over the Life Course: New Measures and New Perspectives." Diss. University of Wisconsin-Madison.
- Palmersheim, Karen. 2001. "Cumulative Socioeconomic Disadvantage, Life Course Stressful Events, and Smoking Cessation." Diss. University of Wisconsin-Madison.
- Hayes, Jeffrey. In progress. "Gender and Jobs: Men's and Women's Labor Market Success During Midlife."
- MacLean, Alair. In progress. "Beyond Happy Days: Growing up in the Fifties."
- C. Master's Theses
- Orenstein, Alan M. 1964. "Size of Community and Occupational Aspiration." Master's Thesis. University of Wisconsin--Madison.
- Townsend, Alair. 1964. "Educational Aspirations and Parental Stress on College: A Replication Study." Master's Thesis. University of Wisconsin--Madison.
- Wegner, Eldon L. 1965. "The Attainment of Intentions Regarding Education: A Follow-Up

- Study." Master's Thesis. University of Wisconsin--Madison.
- Richards, Rosanda. 1966. "Parental Stress on College, High School Achievement, Measured Intelligence and College Plans." Master's Thesis. University of Wisconsin--Madison.
- Zeller, Richard A. 1967. "College Characteristics and Attendance in Graduate School." Master's Thesis. University of Wisconsin--Madison.
- Carter, Nancy D. 1972. "The Effects of Sex and Marital Status on a Social Psychological Model of Status Attainment." Master's Thesis. University of Wisconsin--Madison.
- Stryker, Robin. 1977. "Religio-Ethnic and Catholic School Effects of Attainment in Early Career." Master's Thesis. University of Wisconsin--Madison.
- Symonette, Hazel. 1981. "Does Type of College Attended Matter?" Master's Thesis. University of Wisconsin--Madison.
- Williams, Richard. 1981. "Peer Influence Versus Peer Selection: An Attempted Separation." Master's Thesis. University of Wisconsin--Madison.
- Cha, Jong Chun. 1982. "Wives' Contribution to the Social Status of the Family." Master's Thesis. University of Wisconsin--Madison.
- Lee, Mehng-Lurn. 1989. "Some Structural Models of Family and Inter-Sibling Effects on Educational Attainment: Findings from Wisconsin Data." Master's Thesis. University of Wisconsin--Madison.
- Chiang, Chiu-Juan. 1991. "The Timing of Father's Fertility and Offspring's Educational Attainment." Master's Thesis. University of Wisconsin--Madison.
- Sweeney, Megan M. 1994. "Men's and Women's Hazard of Remarriage: The Role of Socioeconomic Prospects." Master's Thesis. University of Wisconsin--Madison.
- Shinberg, Diane S. 1995. "An Event History Analysis of Age at Last Menstrual Period:

Correlates of Natural and Surgical Menopause Among Mid-Life Wisconsin Women."
Master's Thesis. University of Wisconsin--Madison.

Thompson-Colon, Theresa. 1995. "Women's Mental Health at Midlife: Work and Family Demands." Master's Thesis. University of Wisconsin--Madison.

Sheridan, Jennifer T. 1996. "Determinants of Women's Movement Into and Out of Male-Dominated Occupations." Master's Thesis. University of Wisconsin--Madison.

Sidky, Sonya. 1998. "Intergenerational Transfers of Resources: Exchanges between Midlife Adults and Their Adult Children and Elderly Parents." Master's Thesis. University of Wisconsin--Madison.

Brand, Jennie Lowry. 2000. "Matching on Propensity Scores to Estimate the Effects of Graduating from an Elite College on Early- and Mid-Career Outcomes." Master's Thesis. University of Wisconsin--Madison.

Pettee, Yvette. 2000. "Childbearing Patterns of Parents of Children with Developmental Disabilities." Master's Thesis. University of Wisconsin--Madison.

D. Machine Readable Data Files

Wisconsin Longitudinal Study: 1957, Tax, 1964, 1975, and 1977 (including modules on colleges and companies, and complete work histories for women from 1957-1993) [machine readable data files]. 2000. Principal Investigators, William H. Sewell, Robert M. Hauser, and Taissa S. Hauser. 9th DPLS ed. 2000. Madison, Wisconsin:, University of Wisconsin, Center for Demography and Ecology. Taissa S. Hauser [producer], 2000. Madison, Wisconsin: University of Wisconsin, Data and Program Library Service [distributor], 2000. 4 data files (10317 logical records), plus accompanying documentation. SB-006-001-9-1.

Wisconsin Longitudinal Study: 1992 Graduate Telephone and Mail Surveys [machine readable data files]. 2000. Principal Investigators, William H. Sewell, Robert M. Hauser, and Taissa S. Hauser. 8th DPLS ed. 2000. Madison, Wisconsin:, University of Wisconsin, Center for Demography and Ecology. Taissa S. Hauser [producer], 2000. Madison, Wisconsin: University of Wisconsin, Data and Program Library Service [distributor], 2000. Machine-readable data files plus accompanying documentation. SB-006-002-8-1.

Wisconsin Longitudinal Study:1994 Sibling Telephone and Mail Surveys [machine readable data files]. 2000. Principal Investigators, William H. Sewell, Robert M. Hauser, and Taissa S. Hauser. 4th DPLS ed. 2000. Madison, Wisconsin:, University of Wisconsin, Center for Demography and Ecology. Taissa S. Hauser [producer], 2000. Madison, Wisconsin: University of Wisconsin, Data and Program Library Service [distributor], 2000. Machine-readable data files plus accompanying documentation. SB-006-003-4-1.

Wisconsin Longitudinal Study: 1957, 1964, 1975, 1977, 1992, and 1994. [machine readable data and documentation available at the WLS website <http://dpls.dacc.wisc.edu/WLS>]. 2001.

E. Presentations and Works in Progress

Hodson, Randy, and Teresa A. Sullivan. 1982 "Corporate Identification and the New Occupations." Paper presented at the World Congress of Sociology, Mexico City: August, 1982.

Hauser, Robert M. 1987. "Families in the Stratification Process." Manuscript.

Janssen, Susan L.G. 1988. "Parents and Aspirations: A Two-Generation Model." Manuscript.

Sewell, William H. and Robert D. Retherford. 1992. "The Effects of Birth Order and Gender on Educational and Occupational Attainment." Honolulu, Hawaii, East-West Center, Population Institute: East-West Center Working Paper No. 65.

- Sewell, William H. and Robert D. Retherford. 1993. "The effects of family structure on educational and occupational attainment." Revised Version of Paper Presented at the Annual Meeting of the Population Association of America, Cincinnati, Ohio, April 1-3, 1993.
- Hauser, Robert M., William H. Sewell, and John Robert Warren. 1994. "Education, Occupation, and Earnings in the Long Run: Men and Women from Adolescence to Midlife." Manuscript, August 1994 (under revision).
- Marks, Nadine F. 1994. "Measurement of Health Outcomes and Antecedents in Whitehall II, the National Survey of Families and Households, and the Wisconsin Longitudinal Study." Available as CDE Working Paper 93-16 (Revised February 1994). Center for Demography and Ecology, University of Wisconsin-Madison.
- Carr, Deborah. 1995. "The Effect of Men's Unfulfilled Career Aspirations on Midlife Mental Health." Manuscript.
- Hauser, Robert M., and Deborah Carr. 1995. "Measuring Poverty and Socioeconomic Status in Studies of Health and Well-Being" Available as CDE Working Paper 94-24. Center for Demography and Ecology, University of Wisconsin-Madison. Submitted for publication.
- Logan, John Allen. 1995. "Monetary and Nonmonetary Determinants of Job Choice: Two-Sided Logit Estimates Using Individual-Level Job Characteristic Data." Presented at the ISA Research Committee 28 Meetings, August, 1995, Burlington, VT. Manuscript.
- MacDonald, Maurice, and Hsiang-Hui Daphne Kuo. 1995. "Inter-Family Financial Transfers from Parents to Mid-Life: Adults and their Sibs as Children at Age 50." Available as CDE Working Paper 95-11. Center for Demography and Ecology, University of Wisconsin-Madison. Presented at the Annual Meeting of the Population Association of

- America, San Francisco, CA, April, 1995.
- Carr, Deborah. 1997. "The Influence of Unfulfilled Career Aspirations on Men's and Women's Mental Health at Midlife." Presented at the meetings of the Gerontological Society of America, Cincinnati, OH, November 1997.
- Hauser, Robert M., Hsiang-Hui Daphne Kuo, and Randi Cartmill. 1997. "Birth Order and Personality: Are there Any Effects?" Presented at the meetings of the Population Association of America, Washington, D.C., March 1997. Manuscript.
- Kuo, Hsiang-Hui Daphne. 1997. "Socioeconomic Status and Personality in Mid-Life: An Application of Sibling Resemblance Model." Presented at the meetings of the American Sociological Association, Toronto, Ontario, Canada, August 1997.
- Logan, John Allen. 1997. "Class Mobility and the Stratification of Opportunity Among Men in Four Western Nations." Available as CDE Working Paper 97-01. Center for Demography and Ecology, University of Wisconsin-Madison. Submitted for publication.
- Sheridan, Jennifer T. 1997. "The Effects of the Determinants of Women's Movement Into and Out of Male-Dominated Occupations on Occupational Sex Segregation." [Available as CDE Working Paper 97-07](#). Center for Demography and Ecology, University of Wisconsin-Madison. Presented at the meetings of the Population Association of America, Washington, D.C., March 1997. Center for Demography and Ecology, University of Wisconsin-Madison. Manuscript under revision.
- Sheridan, Jennifer T. 1997. "The Effects of Parents' Unrealized Educational Aspirations on Children's Educational Outcomes." Presented at the meetings of the American Sociological Association, Toronto, Ontario, Canada, August 1997. Manuscript.
- Shinberg, Diane S. 1997. "Sex and Sickness: Gender Gaps in Health." Presented at the meetings

- of the Population Association of America, Washington, D.C., March 1997.
- Singer, Burton, and T. Seeman. 1997. "Mid-and-Later Life Biological Consequences of Life Histories." Presented at the meetings of the Gerontological Society of America, Cincinnati, OH, November 1997.
- Carr, Deborah. 1998. "The Influence of Career Change on Men's Midlife Mental Health." Presented at the meetings of the Population Association of America, Chicago, IL, April 1998.
- Hauser, Robert M., January 1998, "Mental Ability and the Sources of Occupational Success." (Available as CDE Working Paper No. 98-07, Center for Demography and Ecology, University of Wisconsin-Madison).
- Liebler, Carolyn A., and Gary D. Sandefur. March, 1998. "Giving Social Support to Friends, Neighbors, and Coworkers." Presented at the meeting of the Population Association of America in Chicago, IL.
- Musick, Kelly A. 1998. "Carrying the Past Forward: The Influence of Early Family Experiences on Relations with Parents and Siblings at Mid-Life." Presented at the meeting of the American Sociological Association in San Francisco, CA, 1998.
- Shinberg, Diane S., and Hsiang-Hui Daphne Kuo. 1998. "Size, Sex, and SES: A Sibling Resemblance Model." Presented at the meetings of the Population Association of America, Chicago, IL, April 1998.
- Zax, Jeffrey S., and Daniel I. Rees. 1998. "Environment, Ability, Effort and Earnings." March 1998. Available as paper No.9801. Center for Research on Economic and Social Policy, University of Colorado at Denver. [Paper available through CRESPE](#). Or contact authors: zax@colorado.edu and drees@carbon.cudenver.edu

- Carr, Deborah and Jennifer Sheridan. 1999. "Family Transitions at Midlife: Do They Trigger Men's and Women's Career Changes?" Population Association of America. New York.
- Peikes, Deborah N. 1999. "Successful Aging: Factors that Promote Resiliency." Poster presentation at the National Institute on Aging Workshop/Gerontological Society of American Annual Meeting, San Francisco, CA., November 1999.
- Carr, Deborah. 2000. "Interpretations of Career Successes and Shortcomings: The Retrospective Accounts of Midlife Women and Men." Gerontology Colloquium Series, Pennsylvania State University, University Park, PA. Manuscript
- Hill, E.M., Craig, A.S. and Hannah, M.E. 2000. "Variation in parental resource investment among a mid-life US cohort." 2000 Meetings of the Human Behavior and Evolution Society.
- Kwan, Christine M. L., and Burton H. Singer, Carol D. Ryff, Gayle D. Love, and Teresa Seeman. 2000. "Social Relationship Pathways to Allostatic Load". Manuscript.
- Leicht, Kevin T., Dennis P. Hogan, Heather Wendt, and Rongjun Sun. 2000. "Are Labor Market Decisions Rational? Human Capital, Social Capital, and the Production of Work Careers." Presented at the meetings of the American Sociological Association, Washington, DC, August 2000.
- Li, Jing. 2000. "Rewards to High School Curriculum." 2000. Student Paper. University of Wisconsin-Madison.
- MacLean, Alair, and Robert M. Hauser. 2000. "Socioeconomic Status and Depression among Adult Siblings." CDE Working Paper 2000-04. Center for Demography and Ecology, The University of Wisconsin-Madison.
- Peikes, Deborah N. 2000. "Resilience and Healthy Aging." Paper presented at the American

- Public Health Association Annual Meeting, Boston, November, 2000.
- Seltzer, Marsha M., Jan S. Greenberg, and Frank Floyd. 2000. "Flexible Goal Adjustment As A Coping Mechanism for Midlife Parents of Children with Disabilities." Presented at the meetings of the Gerontological Society of America, Washington, DC, November 2000.
- Warren, John Robert and Hsiang-Hui Daphne Kuo. 2000. "Job-Based Versus Occupation-Based Measures of 'What People Do for a Living:' Consequences for Status Attainment and Health Research." Presented at the American Sociological Association and International Stratification Association RC-28 Meetings.
- Carr, Deborah and Jennifer Sheridan. 2001 "Back to School: A Life Course Approach to Understanding Men's and Women's College Enrollment at Midlife." Available as Population Studies Center Work Paper 99-437. University of Michigan.
- Carr, Deborah. 2001 "'My Daughter Has a Career - I Just Raised Babies': Older Mothers' Social Comparisons with Adult Daughters. To be presented at American Sociological Association 2001 annual meeting. Manuscript.
- Halaby, Charles N. 2001. "Social Origins and the Job Values of Men and Women in Their Fifties: Theory and Evidence." Manuscript.
- Hauser, Robert M. 2001. "Longitudinal Population Surveys: Necessary, But No Panacea." The Barbara and Jerome Grossman Symposium: 2001. Washington, DC : National Academy of Sciences.
- Hill, E.M., Craig, A.S., Ziemba, R., Kwantes, C. and Hannah, M.E. 2001. "Early parental investment, socioeconomic resources, and mid-life health." 2001 Meetings of the Human Behavior and Evolution Society.

- Horrighs, Sarah J. 2001. "Intergenerational Mobility and the Determinants of Socioeconomic Attainment." Senior Thesis. Northwestern University.
- Kuo, Hsiang-Hui Daphne. 2001. "Family Environment and Smoking at Mid-Life: A Sibling Resemblance Model." Presented at the 2001 meetings of the Population Association of America, Washington, DC.
- Kuo, Hsiang-Hui Daphne, Hyunjoon Park, Taissa S. Hauser, Robert M. Hauser, and Nadine F. Marks . 2001. "Surveys of the Life Course and Aging: Some Comparisons." Available as CDE Working Paper 01-06. Center for Demography and Ecology, University of Wisconsin-Madison. Submitted for publication.
- Kuo, Hsiang-Hui Daphne and Jonathan D. Mayer. 2001. "Family Environment in Childhood and Adult Smoking." Presented at the 2000 meetings of the Population Association of America, Washington, DC. CDE Working Paper 2001-08. Center for Demography and Ecology, The University of Wisconsin-Madison.
- MacLean, Alair, and Robert M. Hauser. June 2001. "Measuring Depression among Adult Siblings." CDE Working Paper 2001-07. Center for Demography and Ecology, The University of Wisconsin-Madison. Submitted for publication.
- Magee, William J. and Deborah Carr. 2001. "Socioeconomic Background, Psychological Depression, and Social Independence at Midlife." Manuscript.
- Olson, Craig A. and Deena Ackerman. 2001. "High School Inputs and Labor Market Outcomes for Male Workers in Their Mid-thirties: New Data and New Estimates from Wisconsin." Available as IRP Discussion Paper No. 1205-00, Institute for Research on Poverty, University of Wisconsin-Madison. Submitted for publication.
- Olson, Craig A. and Deena Ackerman. 2001. "Money Matters: Returns to School Quality Over A

- Career." Submitted for publication.
- Sewell, William H., Robert M. Hauser, Kristen W. Springer, and Taissa S. Hauser. 2001. "As We Age: The Wisconsin Longitudinal Study, 1957-2001." in Kevin T. Leicht, ed., *Research in Social Stratification and Mobility*. Greenwich, Connecticut: JAI Press, forthcoming in 2002 (Available as CDE Working Paper 2001-09. Center for Demography and Ecology, The University of Wisconsin-Madison.)
- Warren, John Robert, Robert M. Hauser, and Jennifer T. Sheridan. 2001. "Occupational Stratification Across the Life Course: Evidence from the Wisconsin Longitudinal Study." Submitted for publication.
- Wendt, Heather and Kevin T. Leicht. 2001. "Career and Lifecourse Opportunities: The Effects of Marriage, Childbearing, and Labor Market Disruption on the Long-Term Earnings of Women." The University of Iowa, unpublished manuscript.
- Leicht, Kevin T., Dennis P. Hogan, and Heather Wendt. 2001. "Human Capital, Labor Market Decisions, and the Structure of Careers in the Post-War Era." The University of Iowa, unpublished manuscript.
- MacDonald, M. and Koh, S.K. 2001. "Consistent Motives for Inter-Family Transfers: Simple Altruism." Iowa State University. Submitted for publication.
- Carnes, Molly, Kristen Springer, Daphne Kuo, Jennifer Sheridan, Taissa Hauser, and Robert M. Hauser. 2001. "Childhood Violence Has Lifelong Health Consequences: Data From The Wisconsin Longitudinal Study." Paper presented at the Annual Meeting of the Gerontological Society of America, Chicago, IL, November 15-18, 2001.
- Springer, Kristen W. and Robert M. Hauser. 2001. "The Meaning and Measurement of Psychological Well-Being among Midlife Adults." University of Wisconsin-Madison.

Manuscript.

Reference List

- Adams, Bert N. 1972. "Birth Order: A Critical Review." *Sociometry* 35(3):411-39.
- Alexander, Karl L., Ronald J. D'Amico, James Fennessey, and Edward L. McDill. 1978. *Status Compositions and Educational Goals: An Attempt at Clarification*. Baltimore, MD: Center for Social Organization of Schools Johns Hopkins.
- Alexander, Karl L. and Bruce K. Eckland. 1973. *Effects of Education on the Social Mobility of High School Sophomores Fifteen Years Later (1955-1970)*. Chapel Hill, NC: Institute for Research in Social Science University of North Carolina.
- . 1975a. "Contextual Effects in the High School Attainment Process." *American Sociological Review* 40(3):402-16.
- . 1975b. "School Experience and Status Attainment." Pp. 171-210 in *Adolescence in the Life Cycle: Psychological Change and Social Context*, edited by Sigmund E. Dragastin and Glen H. Jr. Elder. Washington, D.C.: Hemisphere Publishing.
- . 1977. "High School Context and College Selectivity: Institutional Constraints in Educational Stratification." *Social Forces* 56(1):166-88.
- Alexander, Karl L., Bruce K. Eckland, and Larry J. Griffin. 1975. "The Wisconsin Model of Socioeconomic Achievement: A Replication." *American Journal of Sociology* 81(2):324-42.
- Alexander, Karl L. and Edward L. McDill. 1976. "Selection and Allocation Within Schools: Some Causes and Consequences of Curriculum Placement." *American Sociological Review* 41(6):963-80.
- Alexander, Karl L. and Aaron M. Pallas. 1983. "Bringing the Arrows Back In: On the Recursivity Assumption in School Process Models." *Social Forces* 62(1):32-53.

- Allison, Paul D. and Robert M. Hauser. 1991. "Reducing Bias in Estimates of Linear Models by Remeasurement of a Random Subsample." *Sociological Methods and Research* 19(4):466-92.
- Alwin, Duane F. 1972. "College Effects on Educational and Socioeconomic Achievements." .
- . 1973. "The Use of Factor Analysis in the Construction of Linear Composites in Social Research." *Sociological Methods and Research* 2(2):191-214.
- . 1974. "College Effects on Educational and Occupational Attainments." *American Sociological Review* 39(2):210-23.
- . 1976. "Socioeconomic Background, College, and Post-Collegiate Achievements." Pp. 343-72 in *Schooling and Achievement in American Society*, edited by William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.
- Alwin, Duane F. and Robert M. Hauser. 1975. "The Decomposition of Effects in Path Analysis." *American Sociological Review* 40(1):37-47.
- Alwin, Duane F., Robert M. Hauser, and William H. Sewell. 1975. "Colleges and Achievement." Pp. 113-42 in *Education, Occupation, and Earnings: Achievement in the Early Career*, edited by William H. Sewell and Robert M. Hauser. New York: Academic Press.
- Alwin, Duane F. and Charles W. Mueller. 1971a. "Comment On 'Toward a Temporal Sequence of Adolescent Achievement Variables'." *American Sociological Review* 36(3):503-08.
- . 1971b. "A Comment on: Toward a Temporal Sequence of Adolescent Achievement Variables." *American Sociological Review* 36(3):503-8.
- Alwin, Duane F. and Luther B. Otto. 1977. "High School Context Effects on Aspirations." *Sociology of Education* 50(4):259-73.
- Alwin, Duane F., Luther B. Otto, and Vaughn R. A. Call. 1976. "The Schooling Process in the

- Development of Aspirations: A Replication." Indiana University. unpublished essay .
- Armor, David J. 1972. "School and Family Effects on Black and White Achievement: A Reexamination of the USOE Data." Pp. 168-229 in *On Equality of Educational Opportunity*. edited by Frederick Mosteller and Daniel P. Moynihan. New York: Vintage Books.
- Averch, Harvey A., Stephen J. Carroll, Theodore S. Donaldson, Herbert J. Kiesling, and John Pincus. 1972. *How Effective Is Schooling? A Critical Review and Synthesis of Research Findings* . Santa Monica, CA: Rand Corporation.
- Bachman, Jerald G. 1970. *Youth in Transition, Vol. II*. Ann Arbor, Michigan: Institute for Social Research University of Michigan.
- Bain, Robert K. and James G. Anderson. 1974. "School Context and Peer Influences on Educational Plans of Adolescents." *Review of Educational Research* 44(4):429-45.
- Barton, Allen H. 1970. "Allen Barton Comments on Hauser's 'Context and Consex'." *American Journal of Sociology* 76(3):514-17.
- Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, Mass: Harvard University Press.
- Benin, Mary H. and David R. Johnson. 1984. "Sibling Similarities in Educational Attainment: A Comparison of Like-Sex and Cross-Sex Sibling Pairs." *Sociology of Education* 57(1):11-21.
- Bielby, William T. 1981. "Models of Status Attainment." Pp. 3-26 in *Research in Social Stratification and Mobility*, vol. 1, edited by D. J. Treiman and R. V. Robinson. Greenwich, Connecticut: JAI Press.
- Bielby, William T. and Robert M. Hauser. 1977. "Structural Equation Models." Pp. 137-61 in *Annual Review of Sociology*, vol. 3, Palo Alto, CA: Annual Reviews.

- Bielby, William T., Robert M. Hauser, and David L. Featherman. 1977a. "Response Errors of Black and Nonblack Males in Models of the Intergenerational Transmission of Socioeconomic Status." *American Journal of Sociology* 82(6):1242-88.
- . 1977b. "Response Errors of Nonblack Males in Models of the Stratification Process." *Latent Variables in Socioeconomic Models*, Eds. Arthur S. Goldberger and Dennis Aigner. Amsterdam: North Holland.
- . 1977c. "Response Errors of Nonblack Males in Models of the Stratification Process." *Journal of the American Statistical Association* 72:723-35.
- Blau, Peter M. and Otis D. Duncan. 1967. *The American Occupational Structure*. New York: John Wiley and Sons.
- Bordua, David J. 1960. "Educational Aspirations and Parental Stress on College." *Social Forces* 38(3):262-69.
- Bowen, Howard R. 1977. *Investment in Learning: The Individual and Social Value of American Higher Education*. San Francisco: Jossey-Bass.
- Bowles, Samuel. 1972. "Schooling and Inequality From Generation to Generation." *Journal of Political Economy* 80:S219-51.
- Bowles, Samuel and Herbert Gintis. 1976. *Schooling in Capitalist America*. New York: Basic Books.
- Boyle, Richard P. 1966. "On Neighborhood Context and College Plans." *American Sociological Review* 31(5):706-07.
- Brand, Jennie E. L. 2000. "Matching on Propensity Scores to Estimate the Effects of Graduating From an Elite College on Early and Mid-Career Outcomes." Master's Thesis, Department of Sociology, University of Wisconsin-Madison.

- Burks, Barbara S., Dortha W. Jensen, and Lewis M. Terman. 1959. *Follow-Up Studies of a Thousand Gifted Children*. Second ed. Stanford, California: Stanford University Press.
- Butcher, Kristin F. and Anne Case. 1994. "The Effect of Sibling Sex Composition on Women's Education and Earnings." *The Quarterly Journal of Economics* 109(3):531-63.
- Campbell, Richard T. 1983. "Status Attainment Research: End of the Beginning or Beginning of the End?" *Sociology of Education* 56(1):47-62.
- Carr, Deborah. 1997. "The Fulfillment of Career Dreams at Midlife: Does It Matter for Women's Mental Health." *Journal of Health and Social Behavior* 38(4):331-44.
- Carr, Deborah and Jennifer T. Sheridan. 1999. "Mature Women Seek Education When Relationships End." *Women in Higher Education* (June):21-22.
- Carter, Nancy D. 1972. "The Effects of Sex and Marital Status on a Social Psychological Model of Status Attainment." Master's Thesis, University of Wisconsin, Madison, WI.
- Carter, T. M., J. S. Picou, Evans W. Curry, and G. Tracy. 1972. "Black-White Differences in Occupational Mobility: Some Preliminary Explanations." Presented at the Annual Meetings of the American Sociological Association, New Orleans, LA.
- Clarridge, Brian R., Linda L. Sheehy, and Taissa S. Hauser. 1977. "Tracing Members of a Panel: A 17-Year Follow-Up." Pp. 185-203 in *Sociological Methodology, 1978*, edited by Karl F. Schuessler. San Francisco: Jossey-Bass.
- Clausen, John A. 1993. *American Lives: Looking Back at the Children of the Great Depression*. New York: The Free Press.
- Cleveland, Stuart. 1962. "A Tardy Look at Stouffer's Findings in the Harvard Mobility Project." *Public Opinion Quarterly* 26(3):453-54.
- Coleman, James S. 1960. "The Adolescent Subculture and Academic Achievement." *American*

- Journal of Sociology* 65(4):337-47.
- . 1961. *The Adolescent Society*. Glencoe, Ill.: Free Press.
- Coleman, James S., Ernest Q. Campbell, Carol J. Hobson, James McPartland, Alexander M. Mood, Frederic D. Weinfeld, and Robert L. York. 1966. *Equality of Educational Opportunity*. Washington, D.C.: Government Printing Office.
- Couch, Kenneth A. and Thomas A. Dunn. 1997. "Intergenerational Correlations in Labor Market Status." *Journal of Human Resources* 32(1):210-232.
- Dale, Stacy B. and Alan B. Krueger. 1999. "Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables." *NBER Working Papers*. 7322. Cambridge, Massachusetts: National Bureau of Economic Research.
- DeBord, Larry W., Larry Griffin, and Melissa Clark. 1977. "Race and Sex Influences in the Schooling Process of Rural and Small Town Youth." *Sociology of Education* 50(2):85-102.
- Degraaf, P. M. and J. J. Huinink. 1992. "Trends in Measured and Unmeasured Effects of Family Background on Educational-Attainment and Occupational-Status in the Federal-Republic-of-Germany." *Social Science Research* 21(1):84-112.
- Douglas, James W. B. 1964. *The Home and the School a Study of Ability and Attainment in the Primary School*. London: Macgibbon & Kee.
- Douglas, James W. B. and J. M. Blomfield. 1958. *Children Under Five the Results of a National Survey Made by a Joint Committee of the Institute of Child Health (University of London) the Society of Medical Officers of Health and the Population Investigation Committee*. London: Allen & Unwin.

- Douglas, James W. B., J. M. Ross, and Howard R. Simpson. 1968. *All Our Future a Longitudinal Study of Secondary Education*. London: P. Davies.
- Dronkers, Jaap. 1978. "Changeable Variables of a School Career: An Application of the Wisconsin Model to Dutch Primary and Secondary Education." Presented at the 9th World Congress of Sociology, Uppsala, Sweden.
- Duncan, Otis D. 1961. "A Socioeconomic Index for All Occupations." Pp. 109-38 in *Occupations and Social Status*. edited by Albert J. Jr. Reiss. New York: Free Press.
- . 1966. "Path Analysis: Sociological Examples." *American Journal of Sociology* 72(1):1-16.
- . 1968. "Ability and Achievement." *Eugenics Quarterly* 15:1-11.
- Duncan, Otis D., David L. Featherman, and Beverly Duncan. 1972. *Socioeconomic Background and Achievement*. New York: Seminar Press.
- Duncan, Otis D., Archibald O. Haller, and Alejandro Portes. 1968. "Peer Influences on Aspirations: A Reinterpretation." *American Journal of Sociology* 74(2):119-37.
- Elder, Glen H. Jr. 1974. *Children of the Great Depression*. Chicago: University of Chicago Press.
- Ellis, Robert A. and W. C. Lane. 1963. "Structural Supports for Upward Mobility." *American Sociological Review* 28(5):743-56.
- Ernst, Cecile and Julius Angst. 1983. *Birth Order: Its Influence on Personality*. New York: Springer-Verlag.
- Farkas, George. 1974. "Specification, Residuals and Contextual Effects." *Sociological Methods and Research* 2(3):333-63.
- Featherman, David L. 1972. "Achievement Orientations and Socioeconomic Career

- Attainments." *American Sociological Review* 37(2):131-43.
- . 1981. "Stratification and Social Mobility: Two Decades of Cumulative Social Science." Pp. 79-100 in *The State of Sociology: Problems and Prospects*, edited by J. F. Short Jr. Beverly Hills: Sage.
- Featherman, David L. and Robert M. Hauser. 1976. "Sexual Inequalities and Socioeconomic Achievement in the U.S., 1962-1973." *American Sociological Review* 41(3):462-83.
- Featherman, David L., Robert M. Hauser, and William H. Sewell. 1974. "Toward Comparable Data on Inequality and Stratification: Perspectives on the Second Generation of National Mobility Studies." *The American Sociologist* 9(1):18-25.
- Feldman, Kenneth A. and Theodore M. Newcomb. 1969. *The Impact of College on Students*. San Francisco: Jossey-Bass.
- Feldman, Kenneth A. and John Weiler. 1976. "Changes in Initial Difference Among Major-Field Groups: An Exploration of the 'Accentuation Effect'." Pp. 373-407 in *Schooling and Achievement in American Society*, edited by William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.
- Fienberg, Stephen E. 1977. *The Analysis of Cross-Classified Categorical Data: Theory and Practice*. Cambridge, Massachusetts: MIT Press.
- Folger, John K., Helen S. Astin, and Alan E. Bayer. 1970. *Human Resources and Higher Education: Staff Report of the Commission on Human Resources and Advanced Education*. New York: Russell Sage.
- Froehlich, Gustav J. 1941. *The Prediction of Academic Success at the University of Wisconsin, 1909-1941*. Madison, Wisconsin: Bureaus of Guidance and Records of the University of Wisconsin.

- Galton, Francis. 1874. *English Men of Science: Their Nature and Nurture*. London: Macmillan.
- Gasson, Ruth M., Archibald O. Haller, and William H. Sewell. 1972. *Attitudes and Facilitation in the Attainment of Status*. Washington, D.C.: American Sociological Association.
- Gilbert, Sidney. 1977. "The Selection of Educational Aspirations." Pp. 281-97 in *Education, Change, and Society: A Sociology of Canadian Education*, edited by R. A. Carlton, L. A. Colley, and N. J. MacKinnon. Toronto, Canada: Gage Educational Publishing Ltd.
- Gillespie, Michael W. 1991. "Conceptual Issues in Models of Sibling Resemblance: Comment on Hauser and Mossel (1985) and Hauser (1988)." *American Journal of Sociology* 97(1):196-206.
- Goldman, Robert and Ann Tickameyer. 1984. "Status Attainment and the Commodity Form: Stratification in Historical Perspective." *American Sociological Review* 49(2):196-209.
- Gottfredson, Linda S. 1997. "Why g Matters: The Complexity of Everyday Life." *Intelligence* 24(1):79-132.
- Griffin, Larry J. and Karl L. Alexander. 1978. "Schooling and Socioeconomic Attainments: High School and College Influences." *American Journal of Sociology* 84(2):319-47.
- Griliches, Zvi. 1979. "Sibling Models and Data in Economics: Beginnings of a Survey." *Journal of Political Economy* 87:S37-S64.
- Grimm, James and Robert Stern. 1974. "Sex Roles and Internal Labor Market Structures: The Female 'Semi-Professions'." *Social Problems* 21(5):690-702.
- Haller, Archibald O. and Alejandro Portes. 1973. "Status Attainment Processes." *Sociology of Education* 46(1):51-91.
- Haller, Archibald O. and William H. Sewell. 1967. "Occupational Choices of Wisconsin Farm Boys." *Rural Sociology* 32(1):37-55.

- Hansen, David O. 1977. " Age Variations in the Formation of Educational and Occupational Career Goals of Brazilian Youth: A Cross-Cultural Test of the Wisconsin Model." *Comparative Education Review* 21(1):37-50.
- Hansen, David O. and Archibald O. Haller. 1973. "Status Attainment of Costa Rican Males: A Cross-Cultural Test of a Model." *Rural Sociology* 38(3):269-82.
- Hauser, Robert M. 1969. "Schools and the Stratification Process." *American Journal of Sociology* 74(6):537-611.
- . 1970a. "Context and Consex: A Cautionary Tale." *American Journal of Sociology* 75(4, Part 2):645-64.
- . 1970b. "Hauser Replies to Allen Barton's Comments on Hauser's 'Context and Consex'." *American Journal of Sociology* 76(3):517-20.
- . 1972a. "Disaggregating a Social-Psychological Model of Educational Attainment." *Social Science Research* 1(2):159-88.
- . 1972b. *Socioeconomic Background and Educational Performance*. Washington, D.C.: American Sociological Association.
- . 1973. "Disaggregating a Social-Psychological Model of Educational Attainment." Pp. 255-84 in *Structural Equation Models in the Social Sciences*. edited by A. S. Goldberger and O. D. Duncan. New York: Seminar Press.
- . 1974. "Contextual Analysis Revisited." *Sociological Methods and Research* 2(3):365-75.
- . 1978a. "Comment on Sorenson and Hallinan: 'A Reconceptualization of School Effects'." *Sociology of Education* 51(1):68-72.
- . 1978b. "A Structural Model of the Mobility Table." *Social Forces* 56(3):919-53.

- . 1979. "The Earnings Trajectories of Young Men." D. Treiman and K. Tominaga. Tokyo, Japan: University of Tokyo Press.
- . 1980. "Some Exploratory Methods for Modeling Mobility Tables and Other Cross - Classified Data." *Sociological-Methodology*; 1980, 11, 413-458: *Sociological-Methodology* .
- . 1981. "The Structure of Social Relationships: Cross-Classifications of Mobility, Kinship, and Friendship." *IHS Journal* 5:1-51.
- . 1982. "Occupational Status in the 19th and 20th Centuries." *Historical Methods* 15(3):111-26.
- . 1984. "Some Cross-Population Comparisons of Family Bias in the Effects of Schooling on Occupational Status." *Social Science Research* 13(2):159-87.
- . 1988. "A Note on Two Models of Sibling Resemblance." *American Journal of Sociology* 93(6):1401-23.
- . 1991. "Reply to Michael Gillespie's Comment on Models of Sibling Resemblance." *American Journal of Sociology* 97(1):206-9.
- . 1994. "Measuring Socioeconomic Status in Studies of Child Development." *Child Development* 65(December):1541-45.
- . 1998. "Mental Ability and the Sources of Occupational Success." *CDE Working Papers*. 1998-07. Madison, Wisconsin: Center for Demography and Ecology, The University of Wisconsin-Madison.
- Hauser, Robert M., Deborah Carr, Taissa Hauser, Margaret Krecker, Daphne Kuo, John Presti, Diane Shinberg, Megan Sweeney, Theresa Thompson-Colon, and S. C. N. Uhrig. 1994. "The Class of 1957 After 35 Years: Overview and Preliminary Findings." Madison,

- Wisconsin: Center for Demography and Ecology The University of Wisconsin-Madison.
- Hauser, Robert M. and Thomas N. Daymont. 1977. "Schooling, Ability, and Earnings: Cross-Sectional Evidence 8 to 14 Years After High School Graduation." *Sociology of Education* 50(3):182-206.
- Hauser, Robert M. and Arthur S. Goldberger. 1971. "The Treatment of Unobservable Variables in Path Analysis." Pp. 81-117 in *Sociological Methodology 1971*, edited by Herbert L. Costner. San Francisco: Jossey-Bass.
- Hauser, Robert M. and Hsiang-Hui D. Kuo. 1998. "Does the Gender Composition of Sibships Affect Educational Attainment?" 33(Summer):644-57.
- Hauser, Robert M., Hsiang-Hui D. Kuo, and Randi Cartmill. 1997. "Birth Order and Personality Among Adult Siblings: Are There Any Effects?" Meetings of the Population Association of America.
- Hauser, Robert M. and Peter A. Mossel. 1985. "Fraternal Resemblance in Educational Attainment and Occupational Status." *American Journal of Sociology* 91(3):650-73.
- . 1988. "Some Structural Equation Models of Sibling Resemblance in Educational Attainment and Occupational Status." Pp. 108-37 in *Structural Modeling by Example: Applications in Educational, Sociological, and Behavioral Research*, edited by Peter Cuttance and Russell Ecob. Cambridge: Cambridge University Press.
- Hauser, Robert M. and William H. Sewell. 1985. "Birth Order and Educational Attainment in Full Sibships." *American Educational Research Journal* 32(1):1-23.
- . 1986a. "A Child's Garden of Equations: Comment on Alexander and Pallas." *Social Forces* 65(1):241-49.
- . 1986b. "Family Effects in Simple Models of Education, Occupational Status, and

- Earnings: Findings From the Wisconsin and Kalamazoo Studies." *Journal of Labor Economics* 4(3, Part 2):S83-S115.
- Hauser, Robert M., William H. Sewell, and Duane F. Alwin. 1976. "High School Effects on Achievement." Pp. 309-41 in *Schooling and Achievement in American Society*, edited by William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.
- Hauser, Robert M., William H. Sewell, and Brian R. Clarridge. 1982. "The Influence of Family Structure on Socioeconomic Achievement: A Progress Report." *CDE Working Papers*. 82-59. Madison, Wisconsin: Center for Demography and Ecology, The University of Wisconsin-Madison.
- Hauser, Robert M., William H. Sewell, John A. Logan, Taissa S. Hauser, Carol Ryff, Avshalom Caspi, and Maurice M. MacDonald. 1992. "The Wisconsin Longitudinal Study: Adults As Parents and Children at Age 50." *IASSIST Quarterly* 16(2):23-38.
- Hauser, Robert M., William H. Sewell, and John R. Warren. 1994. "Education, Occupation, and Earnings in the Long Run: Men and Women From Adolescence to Midlife." .
- Hauser, Robert M., Jennifer T. Sheridan, and John R. Warren. 1999. "Socioeconomic Achievements of Siblings in the Life Course: New Findings From the Wisconsin Longitudinal Study." *Research on Aging* 21(2):338-78.
- Hauser, Robert M. and Megan M. Sweeney. 1997. "Does Adolescent Poverty Affect the Life Chances of High School Graduates?" Pp. 541-95 in Greg Duncan and Jeanne Brooks-Gunn. New York: Russell Sage Foundation.
- Hauser, Robert M., Shu-Ling Tsai, and William H. Sewell. 1983. "A Model of Stratification With Response Error in Social and Psychological Variables." *Sociology of Education*

56(1):20-46.

Hauser, Robert M. and John R. Warren. 1997. "Socioeconomic Indexes for Occupations: A Review, Update, and Critique." Pp. 177-298 in Adrian E. Raftery. Cambridge: Basil Blackwell.

Hauser, Robert M., John R. Warren, Min-Hsiung Huang, and Wendy Y. Carter. 2000. "Occupational Status, Education, and Social Mobility in the Meritocracy." Pp. 179-229 in *Meritocracy and Inequality*, edited by Kenneth Arrow, Samuel Bowles, and Steven Durlauf. Princeton: Princeton University Press.

Hauser, Robert M. and Raymond S.-K. Wong. 1989. "Sibling Resemblance and Inter-Sibling Effects in Educational Attainment." *Sociology of Education* 62(3):149-71.

Hauser, Seth M. 2000. "Education, Ability, and Civic Engagement in the Contemporary United States." *Social Science Research* 29(4):556-82.

Havighurst, Robert J. and Bernice L. Neugarten. 1962. *Society and Education*. Boston: Allyn and Bacon.

Henmon, V. A. C. and Frank O. Holt. 1931. *A Report on the Administration of Scholastic Aptitude Tests to 34,000 High School Seniors in Wisconsin in 1929 and 1930 Prepared for the Committee on Cooperation, Wisconsin Secondary Schools and Colleges*. Madison: Bureau of Guidance and Records of the University of Wisconsin.

Herrnstein, Richard J. and Charles Murray. 1994. *The Bell Curve: Intelligence and Class Structure in American Life*. New York: The Free Press.

Heyns, Barbara. 1974. "Social Selection and Stratification Within Schools." *American Journal of Sociology* 79(6):1434-51.

Hodson, Randy. 1983. *Workers' Earnings and Corporate Economic Structure*. New York:

- Academic Press.
- . 1984a. "Companies, Industries, and the Measurement of Economic Segmentation." *American Sociological Review* 49(3):335-48.
- . 1984b. "Corporate Structure and Job Satisfaction: A Focus on Employer Characteristics." *Sociology and Social Research* 69(1):22-49.
- . 1985. "Some Considerations Concerning the Functional Form of Earnings." *Social Science Research* 14(4):374-94.
- . 1989. "Gender Difference in Job Satisfaction: Why Aren't Women More Dissatisfied?" *Sociological Quarterly* 30(3):385-99.
- Hodson, Randy and Patricia Seitz. 1988. "Outside Ownership and Workers' Earnings and Tenure." *Sociological Quarterly* 29(1):63-81.
- Holahan, Carole K., Robert R. Sears, and Lee J. Cronbach. 1995. *The Gifted Group in Later Maturity*. Stanford, Calif: Stanford University Press.
- Horan, Patrick M. 1978. "Is Status Attainment Research Atheoretical?" *American Sociological Review* 43(4):534-41.
- Hout, Michael and William R. Morgan. 1975. "Race and Sex Variations in the Causes of the Expected Attainments of High School Seniors." *American Journal of Sociology* 81(2):364-94.
- Janssen, Susan and Robert M. Hauser. 1981. "Religion, Socialization, and Fertility." *Demography* 18(4):511-28.
- Jencks, Christopher and Marsha Brown. 1975. "Effects of High Schools on Their Students." *Harvard Educational Review* 45(3):273-324.
- Jencks, Christopher, James Crouse, and Peter Mueser. 1983. "The Wisconsin Model of Status

- Attainment: A National Replication With Improved Measures of Ability and Aspiration." *Sociology of Education* 56(1):3-19.
- Jencks, Christopher, Marshall Smith, Henry Acland, Mary J. Bane, David Cohen, Herbert Gintis, Barbara Heyns, and Stephan Michelson. 1972. *Inequality: A Reassessment of the Effect of Family and Schooling in America*. New York: Basic Books.
- Jensen, Arthur R. 1980. *Bias in Mental Testing*. New York: The Free Press.
- John, Oliver. 1990. "The Big Five Factor Taxonomy: Dimensions of Personality in the Natural Language and Questionnaires." Pp. 66-100 in *Handbook of Personality Theory and Research*, edited by L. A. Pervin. New York: Guilford.
- . 1991. "Big Five Inventory (BFI-54)." University of California, Berkeley: Institute of Personality Assessment and Research.
- Kahl, Joseph A. 1953. "Educational and Occupational Aspirations of 'Common Man' Boys." *Harvard Educational Review* 23(3):186-203.
- Kerckhoff, Alan C. 1974. *Ambition and Attainment: A Study of Four Samples of American Boys*. Washington, D.C.: American Sociological Association.
- . 1976. "The Status Attainment Process: Socialization or Allocation?" *Social Forces* 55(2):368.
- . 1990. *Getting Started: Transition to Adulthood in Great Britain*. Boulder: Westview Press.
- . 1993. *Diverging Pathways: Social Structure and Career Deflections*. Canada: University of Cambridge.
- Kerckhoff, Alan C. and Richard T. Campbell. 1977. "Black-White Differences in the Educational Attainment Process." *Sociology of Education* 50(1):15-27.

- Knottnerus, J. D. 1987. "Status Attainment Research and Its Image of Society." *American Sociological Review* 52(1):113-21.
- Kuo, Hsiang H. D. and Robert M. Hauser. 1995. "Trends in Family Effects on the Education of Black and White Brothers." *Sociology of Education* 68(2):136-60.
- . 1996. "Gender, Family Configuration, and the Effect of Family Background on Educational Attainment." *Social Biology* 43(1-2):98-131.
- . 1997. "How Does Size of Sibship Matter? Family Configuration and Family Effects on Educational Attainment." *Social Science Research* 26(March):69-94.
- Kuo, Hsiang-Hui D., Nadine F. Marks, Hyun-Joon Park, Taissa S. Hauser, and Robert M. Hauser. 2001. "Surveys of the Life Course and Aging: Some Comparisons." *CDE Working Papers*. 2001-06. Madison, Wisconsin: Center for Demography and Ecology The University of Wisconsin-Madison.
- Lee, Mehng-Lurn. 1989. "Some Structural Models of Family and Inter-Sibling Effects on Educational Attainment: Findings From Wisconsin Data." Master's Thesis, Department of Sociology, University of Wisconsin-Madison, Madison, WI.
- Lindert, Peter. 1977. "Sibling Position and Achievement." *Journal of Human Resources* 12(2):198-219.
- Little, J. K. 1958. "A State-Wide Inquiry into Decisions of Youth About Education Beyond High School--Follow-Up Studies." Madison, WI: University of Wisconsin School of Education.
- . 1959. "Explorations into the College Plans and Experiences of High School Graduates: A State-Wide Inquiry." Madison, WI: University of Wisconsin School of Education.
- . 1965. "The Occupations of Non-College Going Youth." Madison, WI: University of

Wisconsin-Madison.

MacDonald, Maurice and Ronald R. Rindfuss. 1981. "Earnings, Relative Income, and Family Formation." *Demography* 18(2):123-36.

MacLean, Alair and Robert M. Hauser. 2000. "Socioeconomic Status and Depression Among Adult Siblings." *CDE Working Papers*. 2000-04 . Madison, Wisconsin: Center for Demography and Ecology, The University of Wisconsin-Madison.

———. 2001. "Measuring Depression Among Adult Siblings." *CDE Working Papers* . 2001-07. Center for Demography of Health and Ecology, The University of Wisconsin-Madison.

Marini, Margaret M. 1978. "The Transition to Adulthood: Sex Differences in Educational Attainment and Age at Marriage." *American Sociological Review* 43(4):483-507.

Marks, N. F. and D. S. Shinberg. 1998. "Socioeconomic Status Differences in Hormone Therapy." *Am J Epidemiol* 148(6):581-93.

Marks, Nadine F. 1996. "Flying Solo at Midlife: Marital Status, and Psychological Well-Being." *Journal of Marriage and the Family* 58(4):917-32.

———. 1998. "Does It Hurt to Care? Caregiving, Work-Family Conflict, and Midlife Well-Being." *Journal of Marriage and the Family* 60(4):951-66.

Marmot, M., C. D. Ryff, L. L. Bumpass, M. Shipley, and N. F. Marks. 1997. "Social Inequalities in Health: Next Questions and Converging Evidence." *Social Science and Medicine* 44(6):901-10.

Marmot, M. G., M. Kogevinas, and M. A. Elston. 1987. "Social/Economic Status and Disease." Pp. 111-35 in *Annual Review of Public Health*, vol. 8, Palo Alto, California: Annual Reviews.

Marmot, M. G., G. D. Smith, S. Stansfeld, C. Patel, F. North, J. Head, I. White, E. Brunner, and

- A. Feeney. 1991. "Health Inequalities Among British Civil Servants: the Whitehall II Study." *Lancet* 337(8754):1387-93.
- Mason, William, Robert M. Hauser, Alan C. Kerckhoff, Sharon S. Poss, and Kenneth Manton. 1976. "Models of Response Error in Student Reports of Parental Socioeconomic Characteristics." Pp. 443-519 in *Schooling and Achievement in American Society*, edited by William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.
- Massagli, Michael and Robert M. Hauser. 1981. "Response Variability in Reports of Socioeconomic Data." Pp. 441-47 in *Proceedings of the Social Statistics Section*, Washington, D.C.: American Statistical Association.
- Mayer, Susan E. 1997. *What Money Can't Buy Family Income and Children's Life Chances*. Cambridge, Mass: Harvard University Press.
- McClendon, McKee J. 1976. "The Occupational Status Attainment Processes of Males and Females." *American Sociological Review* 41(1):52-64.
- McDill, Edward L., Edmund D. Jr. Meyers, and Leo C. Rigsby. 1967. "Institutional Effects on the Academic Behavior of High School Students." *Sociology of Education* 40(3):181-99.
- McDill, Edward L. and Leo C. Rigsby. 1973. *Structure and Process in Secondary Schools: The Academic Impact of Educational Climates*. Baltimore, Md.: Johns Hopkins Press.
- McDill, Edward L., Leo C. Rigsby, and Edmund D. Jr. Meyers. 1969. "Educational Climates of High Schools and Their Effects and Sources." *American Journal of Sociology* 74(6):567-86.
- Meyer, John W. 1970. "High School Effects on College Intentions." *American Journal of Sociology* 76(1):59-70.

- Michael, John A. 1961. "High School Climates and Plans for Entering College." *Public Opinion Quarterly* 25(4):585-95.
- . 1966. "On Neighborhood Context and College Plans (II)." *American Sociological Review* 31(5):702-06.
- Miech, Richard A. and Robert M. Hauser. 2001. "Socioeconomic Status (SES) and Health at Midlife: A Comparison of Educational Attainment With Occupation-Based Indicators." *Annals of Epidemiology* 11(February):75-84.
- Morgan, Stephen L. 1996. "Trends in Black-White Differences in Educational Expectations: 1980-92." *Sociology of Education* 69(4):308-19.
- . 1998. "Adolescent Educational Expectations: Rationalized, Fantasized, or Both?" *Rationality and Society* 10(2):131-62.
- Mosteller, Frederick and Daniel P. Moynihan. 1972. *On Equality of Educational Opportunity*. New York: Vintage Books.
- Nachmias, Chava. 1977. "The Status Attainment Process: A Test of a Model in Two Stratification Systems." *Sociological Quarterly* 18(4):589-607.
- Naoi, Atsushi and Hidenori Fujita. 1978. "Kyoiku Tatsusei Katei to Sono Chii Keisei Kouka." *Kyoiku Shakaigaku Kenkyu* 33:91-105.
- National Research Council. 2001. *New Horizons in Health: An Integrative Approach*. Burton H. Singer and Carol D. Ryff, eds. Committee on Future Directions for Behavioral and Social Sciences Research at the National Institutes of Health. Board on Behavioral, Cognitive, and Sensory Sciences. Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- Nelson, Joel I. 1972a. "Context and College Plans: The Impact of Social Structure on

- Aspirations." *American Sociological Review* 37(2):143-48.
- . 1972b. "Reply to Armer and Sewell." *American Sociological Review* 37(4):639-40.
- Oden, Melita H. 1968. "The Fulfillment of Promise: 40-Year Follow-Up of the Terman Gifted Group." *Genetic Psychology Monographs* 77(1):3-93.
- Olneck, Michael R. 1976. "The Determinants of Educational Attainment and Adult Status Among Brothers: The Kalamazoo Study." Doctoral Dissertation, Harvard Graduate School of Education, Boston, MA.
- . 1977. "On the Use of Sibling Data to Estimate the Effects of Family Background, Cognitive Skills, and Schooling: Results From the Kalamazoo Brothers Study." Pp. 125-62 in *Kinometrics: Determinants of Socioeconomic Success Within and Between Families*, edited by Paul Taubman. Amsterdam: North-Holland.
- Olson, Craig A. and Deena Ackerman. 2000. "High School Inputs and Labor Market Outcomes for Male Workers in Their Mid-Thirties: New Data and New Estimates From Wisconsin." IRP Discussion Paper 1205-00, Institute for Research on Poverty, University of Wisconsin-Madison.
- . 2001a. "High School Inputs and Labor Market Outcomes for Male Workers in Their Mid-Thirties: New Data and New Estimates From Wisconsin." Unpublished paper, University of Illinois (March).
- . 2001b. "Money Matters: Return to School Quality Over A Career." Institute of Labor & Industrial Relations, University of Illinois-Champaign/Urbana.
- Otto, Luther B. and Duane F. Alwin. 1977. "Athletics, Aspirations, and Attainments." *Sociology of Education* 50(2):102-13.
- Otto, Luther B. and Archibald O. Haller. 1979. "Evidence for a Social Psychological Model of

- the Status Attainment Process." *Social Forces* 57(3):887-913.
- Pavalko, Ronald M. and Kenneth G. Lutterman. 1973. "Characteristics of Willing and Reluctant Respondents." *Pacific Sociological Review* 16(4):463-76.
- Picou, J. S. and T. M. Carter. 1976. "Significant-Other Influence and Aspirations." *Sociology of Education* 49(1):12-22.
- Porter, James N. 1974. "Race, Socialization and Mobility in Educational and Early Occupational Attainment." *American Sociological Review* 39(3):303-16.
- . 1976. " Socialization and Mobility in Educational and Early Occupational Attainment." *Sociology of Education* 49(1):23-33.
- Portes, Alejandro, Archibald O. Haller, and William H. Sewell. 1968. "Professional-Executive Vs. Farming As Unique Occupational Choices." *Rural Sociology* 33(2):153-59.
- Portes, Alejandro and Kenneth Wilson. 1976. "Black-White Differences in Educational Attainment." *American Sociological Review* 41(3):414-31.
- Pursell, Caroline H. 1977. *Education and Inequality: The Roots and Results of Stratification in America's Schools*. New York: The Free Press.
- Rehberg, Richard A. and Evelyn R. Rosenthal. 1978. *Class and Merit in the American High School*. New York: Longman.
- Rehberg, Richard A. and Walter E. Schafer. 1968. "Participation in Interscholastic Athletics and College Expectations." *American Journal of Sociology* 73(6):732-40.
- Rehberg, Richard A., Walter E. Schafer, and Judie Sinclair. 1970. "Toward a Temporal Sequence of Adolescent Achievement Variables." *American Sociological Review* 35(1):34-48.
- Reiss, Albert J. Jr. and Albert L. Rhodes. 1961. "The Distribution of Juvenile Delinquency in the

- Social Class Structure." *American Sociological Review* 26(5):720-732.
- Retherford, Robert D. and William H. Sewell. 1988. "Intelligence and Family Size Reconsidered." *Social Biology* 35(1-2):1-40.
- . 1989. "How Intelligence Affects Fertility." *Intelligence* 13(2):169-85.
- . 1991. "Birth Order and Intelligence: Further Tests of the Confluence Model." *American Sociological Review* 56(2):141-58.
- . 1992. "Four Erroneous Assertions Regarding the Accuracy of the Confluence Model." *American Sociological Review* 57(1):136-37.
- Rhodes, Albert L., Albert J. Jr. Reiss, and Otis D. Duncan. 1965. "Occupational Segregation in a Metropolitan School System." *American Journal of Sociology* 70(6):682-94.
- Rogoff, Natalie. 1961. "Local Social Structure and Educational Selection." Pp. 241-51 in *Education, Economy, and Society*, edited by A. H. Halsey, J. Floud, and C. A. Anderson. Glencoe, IL: The Free Press.
- Rosen, Bernard C. and Carol S. Aneshensel. 1978. "Sex Differences in the Educational-Occupational Expectation Process." *Social Forces* 57(1):164-86.
- Rosenbaum, James E. 1976. *Making Inequality: The Hidden Curriculum of High School Tracking*. New York: John Wiley and Sons.
- . 1978. "The Structure of Opportunity in School." *Social Forces* 57(1):236-56.
- Rosenfeld, Rachel A. 1976. "Women's Employment Patterns and Occupational Achievements." Doctoral Dissertation. Department of Sociology, University of Wisconsin--Madison.
- Ryff, C. D. 1989. "Happiness Is Everything, or Is It? Explorations on the Meaning of Psychological Well-Being." *Journal of Personality and Social Psychology* 57(6):1069-81.

- Ryff, C. D. and C. L. Keyes. 1995. "The Structure of Psychological Well-Being Revisited." *J Pers Soc Psychol* 69(4):719-27.
- Ryff, Carol D. and Burton Singer. 1996. "Psychological Well-Being: Meaning, Measurement, and Implications for Psychotherapy Research." *Psychotherapy and Psychosomatics* 65:14-23.
- . 2002. "The Role of Emotion on Pathways to Positive Health." *Handbook of Affective Science*, Editors R. H. Davidson and K. Scherer. New York: Oxford University Press.
- Sandefur, G. D. and T. Wells. 1999. "Does Family Structure Really Influence Educational Attainment?" *Social Science Research* 28(4):331-57.
- Schooler, Carmi. 1972. "Birth Order Effects: Not Here, Not Now!" *Psychological Bulletin* 78(3):161-75.
- Seltzer, M. M., J. S. Greenberg, F. J. Floyd, Y. Pettee, and J. Hong. 2001. "Life Course Impacts of Parenting a Child With a Disability." *American Journal on Mental Retardation* 106:265-86.
- Sewell, William H. 1963. "The Educational and Occupational Perspectives of Rural Youth." Washington, D.C.: The National Committee for Children and Youth.
- . 1971. "Inequality of Opportunity for Higher Education." *American Sociological Review* 36(5):793-809.
- . 1988. "The Changing Institutional Structure of Sociology and My Career." Pp. 119-43 in *Sociological Lives*, edited by Matilda W. Riley. Newbury Park, California: Sage Publications.
- . 1989. "Some Reflections on the Golden Age of Interdisciplinary Social Psychology." Pp. 1-16 in *Annual Review of Sociology*, vol. 15, Palo Alto, CA: Annual Reviews.

- Sewell, William H. and J. M. Armer. 1966a. "Neighborhood Context and College Plans."
American Sociological Review 31(2):159-68.
- . 1966b. "Reply to Turner, Michael, and Boyle (On Neighborhood Context and College Plans [I], [II], [III])." *American Sociological Review* 31(5):698-712.
- . 1972. "High School Context and College Plans: A Comment." *American Sociological Review* 37(5):637-39.
- Sewell, William H. and Archibald O. Haller. 1965. "Educational and Occupational Perspectives of Farm and Rural Youth." Pp. 149-69 in *Rural Youth in Crisis: Facts, Myths, and Social Change*, edited by L. G. Burchinal. Washington, D.C.: Government Printing Office.
- Sewell, William H., Archibald O. Haller, and George W. Ohlendorf. 1970. "The Educational and Early Occupational Status Attainment Process: Replication and Revision." *American Sociological Review* 35(6):1014-27.
- Sewell, William H., Archibald O. Haller, and Alejandro Portes. 1969. "The Educational and Early Occupational Attainment Process." *American Sociological Review* 34(1):82-92.
- Sewell, William H., Archibald O. Haller, and Murray A. Straus. 1957. "Social Status and Educational and Occupational Aspiration." *American Sociological Review* 22(1):67-73.
- Sewell, William H. and Robert M. Hauser. 1972. "Causes and Consequences of Higher Education: Models of the Status Attainment Process." *American Journal of Agricultural Economics* 54(6):851-61.
- . 1975. *Education, Occupation, and Earnings: Achievement in the Early Career*. New York: Academic Press.
- . 1977. "On the Effects of Families and Family Structure on Achievements." Pp. 255-83 in *Kinometrics: The Determinants of Educational Attainment, Mental Ability, and*

- Occupational Success Within and Between Families*, edited by Paul J. Taubman.
Amsterdam: North Holland.
- . 1980. "The Wisconsin Longitudinal Study of Social and Psychological Factors in Aspirations and Achievements." Pp. 59-99 in *Research in Sociology and Education*, vol. 1, edited by A. C. Kerckhoff. Greenwich, CN: JAI Press.
- . 1992. "The Influence of The American Occupational Structure on the Wisconsin Model." *Contemporary Sociology* 21(5):598-603.
- Sewell, William H., Robert M. Hauser, and Wendy C. Wolf. 1980. "Sex, Schooling and Occupational Status." *American Journal of Sociology* 86(3):551-83.
- Sewell, William H. and Alan W. Orenstein. 1965. "Community of Residence and Occupational Choice." *American Journal of Sociology* 70(5):551-63.
- Sewell, William H. and Robert D. Retherford. 1993. "The Effects of Birth Order and Gender on Educational and Occupational Attainment." Presented at Annual Meetings of the Population Association of America, Cincinnati, Ohio.
- Sewell, William H. and Vimal P. Shah. 1967. "Socioeconomic Status, Intelligence, and the Attainment of Higher Education." *Sociology of Education* 40(Winter):1-23.
- . 1968a. "Parents' Education and Children's Educational Aspirations and Achievements." *American Sociological Review* 33(2):191-209.
- . 1968b. "Social Class, Parental Encouragement, and Educational Aspirations." *American Journal of Sociology* 73(5):559-72.
- Shea, Brent M. 1976. "Schooling and Its Antecedents: Substantive and Methodological Issues in the Status Attainment Process." *Review of Educational Research* 46(4):463-526.
- Sheridan, Jennifer. 1996. "Determinants of Women's Movement Into and Out of Male-

- Dominated Occupations." Master's Thesis, Department of Sociology, University of Wisconsin-Madison.
- . 1997. "The Effects of the Determinants of Women's Movement Into and Out of Male-Dominated Occupations on Occupational Sex Segregation." *CDE Working Papers*. 97-07. Madison, Wisconsin: Center for Demography and Ecology, The University of Wisconsin-Madison.
- . 2001. "Occupational Attainment Across the Life Course: Sources of Stability and Change in Three Occupational Characteristics." Doctoral Dissertation, Department of Sociology, The University of Wisconsin-Madison, Madison, Wisconsin.
- Sherif, Carolyn W. 1961. "Self-Radius and Goals of Youth in Different Urban Areas." *Southwestern Social Science Quarterly* 42(3):259-70.
- Shinberg, D. S. 1998. "An Event History Analysis of Age at Last Menstrual Period: Correlates of Natural and Surgical Menopause Among Midlife Wisconsin Women." *Social Science and Medicine* 46(10):1381-96.
- Sieben, I. and P. M. De Graaf. 2001. "Testing the Modernization Hypothesis and the Socialist Ideology Hypothesis: a Comparative Sibling Analysis of Educational Attainment and Occupational Status." *British Journal of Sociology* 52(3):441-67.
- Simpson, Richard L. 1962. "Parental Influence, Anticipatory Socialization, and Social Mobility." *American Sociological Review* 27(4):517-22.
- Singer, Burton and Carol D. Ryff. 1996. "Racial and Ethnic Inequalities in Health: Environmental, Psychosocial, and Physiological Pathways." Pp. forthcoming in Washington, D.C.: National Academy Press.
- Singer, Burton, Carol D. Ryff, Deborah Carr, and William Magee. 1998. "Linking Life Histories

- and Mental Health: A Person-Centered Strategy." Pp. 1-51 in *Sociological Methodology 1998*, edited by Adrian E. Raftery. Washington, D.C.: American Sociological Association.
- Smith, Robert B. 1972. "Neighborhood Context and College Plans: An Ordinal Path Analysis." *Social Forces* 51(2):199-217.
- Snyder, Eldon E. and Elmer Spreitzer. 1977. "Participation in Sport As Related to Educational Expectations Among High School Girls." *Sociology of Education* 50(1):47-55.
- Solmon, Lewis A. 1973. "Schooling and Subsequent Success: The Influence of Ability, Background, and Formal Education." Pp. 13-34 in *Does College Matter? Some Evidence on the Impacts of Higher Education*, edited by Lewis C. Solmon and Paul J. Taubman. New York: Academic Press.
- Sorensen, Annemette. 1983a. "Children and Their Mother's Careers." *Social Science Research* 12(1):26-43.
- . 1983b. "Women's Employment Patterns After Marriage." *Journal of Marriage and Family* 45:311-22.
- Spady, William G. 1970. "Simple Techniques for Multivariate Analyses." *Interchange* 1(3):3-20.
- . 1971. "Status, Achievement, and Motivation in the American High School." *School Review* 79(3):379-403.
- . 1976. "The Impact of School Resources on Students." Pp. 185-223 in *Schooling and Achievement in American Society*. edited by William H. Sewell, Robert M. Hauser, and David L. Featherman. New York: Academic Press.
- Spreitzer, Elmer and Melissa Pugh. 1973. "Interscholastic Athletics and Educational Aspirations." *Sociology of Education* 46(2):171-82.

- St. John, Nancy and Marshall S. Smith. 1969. *School Racial Composition, Achievement and Aspiration*. Cambridge, MA: Center for Educational Policy Research Harvard University.
- Steelman, Lala C. 1985. "A Tale of Two Variables: A Review of the Intellectual Consequences of Sibship Size and Birth Order." *Review of Educational Research* 55(3):353-86.
- Stryker, Robin. 1981. "Religio-Ethnic Effects Upon Attainments in the Early Career." *American Sociological Review* 46(2):212-31.
- Sulloway, Frank J. 1996. *Born to Rebel: Birth Order, Family Dynamics, and Creative Lives*. New York: Pantheon.
- Sweeney, Megan. 1997. "Remarriage of Women and Men After Divorce: The Role of Socioeconomic Prospects." *Journal of Family Issues* 18(5):479-502.
- Symonette, Hazel. 1981. "Does Type of College Attended Matter?" Master's Thesis, Department of Sociology, University of Wisconsin-Madison, Madison, WI.
- Teachman, J. D. 1987. "Family Background, Educational Resources, and Educational-Attainment." *American Sociological Review* 52(4):548-57.
- . 1995a. "Families As Natural Experiments - a Procedure for Estimating the Potentially Biasing Influence of Families on Relationships Between Variables." *Journal of Family Issues* 16(5):519-37.
- . 1995b. "Sibling Resemblance and Symmetry in Intellectual Skill." *Sociology of Education* 68(3):205-20.
- . 1995c. "Sibling Resemblance and Symmetry in Intellectual Skill (Vol 68, Pg 205, 1995)." *Sociology of Education* 68(4):300.
- . 1996. "Intellectual Skill and Academic Performance: Do Families Bias the Relationship?" *Sociology of Education* 69(1):35-48.

- . 1997. "Gender of Siblings, Cognitive Achievement, and Academic Performance: Familial and Nonfamilial Influences on Children." *Journal of Marriage and the Family* 59(2):363-74.
- Teachman, J. D., K. Carver, and R. Day. 1995. "A Model for the Analysis of Paired Data." *Journal of Marriage and the Family* 57(4):1011-24.
- Teachman, J. D., R. Day, K. Paasch, K. Carver, and V. Call. 1998. "Sibling Resemblance in Behavioral and Cognitive Outcomes: the Role of Father Presence." *Journal of Marriage and the Family* 60(4):835-48.
- Teachman, J. D. and K. Paasch. 1998. "The Family and Educational Aspirations." *Journal of Marriage and the Family* 60(3):704-14.
- Terman, Lewis M. 1925. *Mental and Physical Traits of a Thousand Gifted Children*. Stanford, California: Stanford University Press.
- Terman, Lewis M. and Melita H. Oden. 1959a. *The Gifted Child Grows Up: Twenty-Five Years' Follow-Up of a Superior Group*. Second ed. Stanford, California: Stanford University Press.
- . 1959b. *The Gifted Group at Mid-Life: Thirty-Five Years' Follow-Up of the Superior Child*. Second ed. Stanford, California: Stanford University Press.
- Toka, G. and J. Dronkers. 1996. "Sibling Resemblance in Educational Attainment, Occupational Prestige, and Wealth in Hungary During the Communist Regime." *European Sociological Review* 12(3):251-69.
- Treiman, Donald J. and Kermit Terrell. 1975. "Sex and the Process of Status Attainment: A Comparison of Working Women and Men." *American Sociological Review* 40(2):174-200.

- Tsai, Shu-Ling. 1983. "Sex Differences in the Process of Stratification." .
- Turner, Ralph H. 1960. "Sponsored and Contest Mobility and the School System." *American Sociological Review* 25(6):855-67.
- . 1964. *The Social Context of Ambition*. San Francisco: Chandler.
- . 1966. "On Neighborhood Context and College Plans (I)." *American Sociological Review* 31(5):698-702.
- U.S. Bureau of the Census. 2000. "Educational Attainment in the United States: March 2000." *Current Population Reports*. Series P-20, No. 536. Washington, D.C.: Government Printing Office.
- Wadsworth, M. E. J. 1991. *The Imprint of Time: Childhood, History, and Adult Life*. Oxford: Clarendon Press.
- Wang, Charlotte S. Y. and William H. Sewell. 1980. "Residence, Migration, and Earnings." *Rural Sociology* 45(Summer):185-206.
- Warren, John R. and Robert M. Hauser. 1997. "Social Stratification Across Three Generations: New Evidence From the Wisconsin Longitudinal Study." *American Sociological Review* 62(4):561-72.
- Warren, John R., Jennifer T. Sheridan, and Robert M. Hauser. 1998. "Choosing a Measure of Occupational Standing: How Useful Are Composite Measures in Analyses of Gender Inequality in Occupational Attainment?" *Sociological Methods and Research* 27(1):3-76.
- . 2001. "Occupational Stratification Across the Life Course: Evidence From the Wisconsin Longitudinal Study." Department of Sociology, The University of Washington.
- Wegner, Eldon L. and William H. Sewell. 1970. "Selection and Context As Factors Affecting the

- Probability of Graduation From College." *American Journal of Sociology* 75(4):665-79.
- Williams, Richard. 1981. "Peer Influence Versus Peer Selection: An Attempted Separation." Master's Thesis, Department of Sociology, University of Wisconsin-Madison, Madison, WI.
- Williams, Trevor H. 1972. "Educational Aspirations: Longitudinal Evidence on Their Development in Canadian Youth." *Sociology of Education* 45(2):107.
- Wilson, Alan B. 1959. "Residential Segregation of Social Classes and Aspirations of High School Boys." *American Sociological Review* 24(6):836-45.
- . 1967. "Educational Consequences of Segregation in a California Community." Pp. 165-206 in vol. 2, U.S. Commission on Civil Rights: Racial Isolation in the Public Schools. Washington, D.C.: U.S. Government Printing Office.
- . 1989. "Dreams and Aspirations in the Status Attainment Model." Pp. 49-73 in David Stern and Dorothy Eichorn. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Wilson, Kenneth L. and Alejandro Portes. 1975. "The Educational Attainment Process: Results From National Samples." *American Journal of Sociology* 81(2):343-63.
- Wolf, Wendy C. 1975. "Occupational Attainment of Married Women: Do Career Contingencies Matter?" Ph.D. Dissertation, Department of Social Relations, John Hopkins University, Baltimore, MD.
- Wolf, Wendy C. and Neil D. Fligstein. 1979a. "Sex and Authority in the Work Place." *American Sociological Review* 44(2):235-52.
- . 1979b. "Sexual Stratification: Differences in Power in the Work Setting." *Social Forces* 58(1):94-107.
- Wolf, Wendy C. and Rachel Rosenfeld. 1978. "Sex Structure of Occupations and Job Mobility."

Social Forces 56(3):823-44.

Yuchtman, Ephraim and Samuel Yitzhak. 1975. "Determinants of Career Plans: Institutional Versus Interpersonal Effects." *American Sociological Review* 40(4):521-31.

Zajonc, Robert B. 1976. "Family Configuration and Intelligence." *Science* 192:227-36.

Zajonc, Robert B. and J. Bargh. 1980. "The Confluence Model: Parameter Estimation for Six Divergent Data Sets on Family Factors and Intelligence." *Intelligence* 4(4):349-56.

Zajonc, Robert B. and Gregory B. Markus. 1975. "Birth Order and Intellectual Development." *Psychological Review* 82(1):74-88.

Table 1: Early WLS Research on Community, Neighborhood, and Family Effects on Educational Aspiration and Attainment

Publication(s)	Findings	Data Used	Reactions
Sewell (1963), Sewell and Orenstein (1965)	<ul style="list-style-type: none"> • Community characteristics affect aspirations except when SES and ability are controlled • Urban boys with high status and ability had higher aspirations than similar rural boys 	1957 data for graduates, administrative record data ¹	
Sewell and Haller (1965), Haller and Sewell (1967), Portes, Haller, and Sewell (1968)	<ul style="list-style-type: none"> • Among farm boys choosing to farm has similar antecedents and consequences as choosing blue-collar and lower white-collar occupations • Farm boys who aspired to or who achieved professional and executive positions had greater measured mental ability and more encouragement from significant others for college attendance 	1957 and 1964 data for graduates, administrative record data	
Sewell and Armer (1966a)	<ul style="list-style-type: none"> • Neighborhood contexts don't contribute greatly to educational aspirations 	Public High School seniors from Milwaukee with 1957 data for graduates, administrative record data	Boyle (1966), Coleman, Campbell, et al. (1966), Michael (1966), Turner (1966)

¹ An entry of administrative record data means that at least one among the following data sources was used: scores on the Henmon-Nelson Test of Mental Ability, rank in high school class, and reports of adjusted gross income and parents' occupations from Wisconsin State Income Tax returns.

Publication(s)	Findings	Data Used	Reactions
Sewell and Armer (1966b)	<ul style="list-style-type: none"> • Responded to critiques of Sewell and Armer (1966a) • Controversy raised several issues: 1) interaction of school/residential effects with other variable, 2) role of normative and comparative processes in masking neighborhood and school effects, 3) effects of student body composition, and 4) impact of neighborhood/school contexts on later life education and occupation 		<p>McDill, Meyers, and Rigsby (1967), Wilson (1967), Hauser (1969), McDill, Rigsby, and Meyers (1969), St. John and Smith (1969), Barton (1970), Meyer (1970), Spady (1970), Armor (1972), Nelson (1972a; 1972b), Sewell and Armer (1972), Smith (1972), McDill and Rigsby (1973; 1970a; 1970b; 1972b; 1974; 1978a), Bain and Anderson (1974), Farkas (1974), Heyns (1974), Alexander and Eckland (1975a; 1975b; 1977), Alexander, D'Amico, et al. (1978), Griffin and Alexander (1978)</p>
Hauser, Sewell, and Alwin (1976)	<ul style="list-style-type: none"> • Extended Sewell and Armer's (1966a) work • Using a recursive structural equation model the authors found that additive effects of schools on educational aspirations and attainment were small • Academic performance works differently than curriculum placement in attainment process • Community, neighborhood, and school context effects on educational aspirations and achievements are small once SES, ability and gender are controlled 	<p>Public High School seniors from Milwaukee with 1957 and 1964 data for graduates, administrative record data</p> <p>Statewide 1957 and 1964 data for graduates and administrative record data</p>	<p>Heyns (1974), Alexander and Eckland (1975a; 1975b), Jencks and Brown (1975), Alexander and McDill (1976), Alwin and Otto (1977), Marini (1978), Rosenbaum (1978)</p>

Publication(s)	Findings	Data Used	Reactions
Sewell and Shah (1967)	<ul style="list-style-type: none"> • SES is an important predictor of college plans and educational attainment even after controlling for ability 	1957 and 1964 data for graduates, administrative record data	
Sewell and Shah (1968a)	<ul style="list-style-type: none"> • Educational attainment of parents positively affects children's aspirations 	1957 and 1964 data for graduates, administrative record data	
Sewell and Shah (1968b)	<ul style="list-style-type: none"> • Perceived parental encouragement affects educational aspirations net of gender, SES and ability • Direct effect of parental encouragement on college plans is greater than the direct effect of SES or ability • Effect of SES on parental encouragement is greater than that of ability 	1957 data for graduates, administrative record data	Fienberg (1977) reanalyzed the data using a conditional logit model.

Table 2. The Wisconsin Model: Development and Extensions

Publication(s)	Findings	Data Used
Initial Models		
Sewell and Shah (1967)	<ul style="list-style-type: none"> • Large differences in educational attainment of SES groups even after controlling for ability and gender • Educational aspiration strongly affected educational attainment independent of intelligence and SES • Total effect of SES on educational attainment greater for females than males; total effect of ability was greater for males than females 	1957 and 1964 data for graduates, administrative record data
Sewell, Haller, and Portes (1969)	<ul style="list-style-type: none"> • Developed a linear causal model where the effects of SES and ability on education achievements and occupational attainments are mediated by social psychological variables 	1957 and 1964 data for graduates, administrative record data
Sewell, Haller, and Ohlendorf (1970)	<ul style="list-style-type: none"> • Extended 1969 analysis beyond farm boys and found that the model was not as simple or elegant when used with a broader group (specifically few direct paths) • Model was more effective for educational attainment than occupational achievement • Became known as the “Wisconsin Social Psychological Model of Status Attainment” or simply the “Wisconsin Model” 	1957 and 1964 data for graduates, administrative record data

Publication(s)	Findings	Data Used
Disaggregated Models		
Hauser (1972a), Sewell and Hauser (1972; 1975)	<ul style="list-style-type: none"> • Built on Wisconsin Model by disaggregating SES and social influences, shifting position of ability to first mediating location, and including earnings as a dependent variable • Each of the SES variables had an approximately equal effect on educational attainment and intervening variables • Most effects of SES on educational attainment were mediated by perceived encouragement and aspirations • No direct effects of SES on son's grades • About ½ the effect of educational attainment on earnings was due to its effect on occupational achievement and ½ was a direct effect • Parents' average annual income had largest effect on son's earnings • Model not as effective at explaining earnings 	1957 and 1964 data for graduates, administrative record data, Social Security earnings records
Hauser and Daymont (1977); Hauser (1979); Wang and Sewell (1980)	<ul style="list-style-type: none"> • Effect of education on earnings is suppressed by absence of measured work experience • Larger places of residence increase earnings 	1957 and 1964 data for graduates, administrative record data, Social Security earnings records
Stryker (1981)	<ul style="list-style-type: none"> • Studied effects of religio-ethnic background on educational and occupational attainments in early career 	1957 and 1975 graduate data, administrative record data
Williams (1981)	<ul style="list-style-type: none"> • Separated peer influence from peer selection in the status attainment process and found that peer influence remains highly significant 	1957 and 1975 graduate data, administrative record data

Publication(s)	Findings	Data Used
College Effects		
Wegner and Sewell (1970), Alwin (1974; 1976); Alwin, Hauser, and Sewell (1975)	<ul style="list-style-type: none"> • Explored effect of type of college attended on early occupational and economic attainment • Only a small portion of the gross differences in achievement is explained by differences in the type of college • Demonstrated weakness of unidimensional conceptions of college quality 	1957 and 1964 data for graduates, administrative record data, Social Security earnings records
Symonnette (1981); Brand (2000)	<ul style="list-style-type: none"> • Measures effects of type of college attended on adult occupational and economic attainment • Effects of type of college and of elite college attendance are small 	1957 and 1975 data for graduates, administrative record data
Gender and Attainment		
Sewell, Hauser, and Wolf (1980; see also Sewell 1971 for a review of gender differences through 1964.)	<ul style="list-style-type: none"> • Inclusion of additional background measures didn't alter previous understanding of educational and occupational achievement process for men or women • Direct effects of social background decreased across life course 	1957, 1964, and 1975 data for graduates, administrative record data
Wolf and Fligstein (1979b; see also Wolf and Fligstein 1979a)	<ul style="list-style-type: none"> • Women are less likely than men to be in positions of authority even controlling for education, occupational status and self-employment 	1975 data for graduates
Sorensen (1983a; 1983b)	<ul style="list-style-type: none"> • Number of children influence the status of the job that a woman returns to after childbirth but doesn't affect the gains in status after returning to the labor market • Married women's decisions to enter and leave the labor market are based a on a variety of life-cycle factors 	1975 graduate data, administrative record data

Publication(s)	Findings	Data Used
Sheridan (1997)	<ul style="list-style-type: none"> • Women's movement into male-dominated occupations explained by sex role socialization 	1957, 1964, 1975, and 1992 graduate data, administrative record data
The Organization of Work		
Hodson (1983; 1984a; 1984b; 1989), Hodson and Seitz (1988)	<ul style="list-style-type: none"> • Workers in large plants with advanced production technology have higher earnings, better fringe benefits, and steadier employment compared to workers in smaller firms • Organizational size is negatively associated with job satisfaction • On average, women report greater job satisfaction than even though men are in objectively better jobs 	1975 graduate data additional information on corporate economic structure

Publication(s)	Findings	Data Used
Update to the Mid-50s		
Hauser and Sweeney (1997)	<ul style="list-style-type: none"> •Developed childhood poverty measure for the WLS •Assessed consequences of childhood poverty for education, occupational status, poverty, health, depression, mortality 	1957, 1975, and 1992 graduate data, administrative record data
Hauser, Sewell, and Warren (1994); Hauser, et al. (2000; see also Hauser et al. 1999; and Warren et al. 2001)	<ul style="list-style-type: none"> •Developed framework to measure effects of education and prior variables on occupational status from first job until job in 1992 •In general, the relative effects of social background, ability, social psychological factors, and education were constant from first to latest job 	1957, 1964, 1975, and 1992 graduate data, administrative record data
Effects of Response Error		
Massagli and Hauser (1981); Hauser, Tsai, and Sewell (1983)	<ul style="list-style-type: none"> •Using the original Wisconsin model they estimated the influence of response error in the social and psychological variables •Findings were much closer to the original “causal chain” theory of Sewell, Haller, and Portes (1969) 	1957, 1964, and 1975 data for graduates, administrative record data

Table 3: Replication and Reaction to the Wisconsin Model

Replications	Contextual Differences and Additional Variables	Race and Gender Extensions	Critical Comments and Dialogue
<p>Williams (1972), Hansen and Haller (1973), Kerckhoff (1974), Porter (1974; 1976), Alexander, Eckland, et al. (1975; 1975b), Yuchtman and Yitzhak (1975), Picou and Carter (1976), Gilbert (1977), Marini (1978), Hansen (1977), Nachmias (1977), Dronkers (1978), Rosen and Aneshensel (1978), Naoi and Fujita (1978), Otto and Haller (1979), Jencks, Crouse, et al.(1983)</p>	<ul style="list-style-type: none"> • Addition of school or neighborhood context: McDill and Rigsby (1973), Heyns (1974), Alexander and Eckland (1975a), Jencks and Brown (1975), Alexander and McDill (1976), Alwin, Otto, et al. (1976), Rosenbaum (1976; 1978), Alwin and Otto (1977) • Examine effects of other variables on aspirations and achievements: Otto and Alwin (1977) (athletic participation). 	<ul style="list-style-type: none"> • Race differences: Carter, Picou, et al.(1972), Porter (1974), Wilson and Portes (1975), Hout and Morgan (1975), Portes and Wilson (1976), DeBord, Griffin, et al. (1977), Kerckhoff and Campbell (1977) • Gender differences: Carter (1972), Hout and Morgan (1975), Treiman and Terrell (1975), Featherman and Hauser (1976), McClendon (1976), Rosen and Aneshensel (1978). 	<ul style="list-style-type: none"> • Ordering of variables: Turner (1966) and response by Sewell and Armer (1966b); Rehberg, Schafer, and Sinclair (1970) and response by Alwin and Mueller (1971b). • Feedback mechanism between social psychological variables: Alexander and Pallas (1983) and response by Hauser and Sewell (1986a) • General theoretical critiques: Smith (1972), Kerckhoff (1976), Pursell (1977), Horan (1978), Goldman and Tickameyer (1984), Knottnerus (1987)

Table 4: Analyses of Sibling Resemblance in the WLS

Publication(s)	Findings	Data Used	Reactions
Sewell and Hauser (1977)	<ul style="list-style-type: none"> • Development of sibling resemblance models 		
Hauser, Sewell, and Clarridge (1982)	<ul style="list-style-type: none"> • Compared personal and demographic characteristics of graduates and siblings with other national surveys • No significant effect of birth order on educational attainment • Social background and ability variables don't fully account for sibling SES similarities 	1957, 1964 and 1975 graduate data, 1977 sibling data	
Hauser (1984)	<ul style="list-style-type: none"> • Developed structural equation model of sibling resemblance in occupational attainment taking into account possible family bias • Family bias in the effect of schooling on occupational status is smaller than others have claimed 	1964 and 1975 graduate data, 1977 sibling data Olneck's (1976) Kalamazoo sample	
Hauser and Mossel (1985; 1988)	<ul style="list-style-type: none"> • Regression of occupational status on educational attainment among brother pairs was relatively insensitive to response variability and specification of family factors • Family membership accounted for 1/2 of variance in occupational status 	1964 and 1975 data for graduates, 1977 data for siblings	Teachman (1995a; 1995b; 1995c; 1996; 1997), Teachman, Carver, and Day (1995), Teachman, Day, Pasch, Carver, and Call (1998), Teachman and Paasch (1998).

Publication(s)	Findings	Data Used	Reactions
Hauser and Sewell (1986b)	<ul style="list-style-type: none"> • Modeled effects of measured and unmeasured family background, mental ability and education on occupational status and earnings using incomplete data with corrections for measurement error • No evidence that family background effects bias the effects of ability on schooling or schooling on occupational status and earnings • Family background had large effects on ability and schooling but smaller effects on SES 	<p>1957, 1964 and 1975 data for graduates, 1977 data for siblings, administrative record data</p> <p>Olneck's (1976) Kalamazoo sample</p>	
Hauser (1988)	<ul style="list-style-type: none"> • Compared two structural equation models of educational and occupational resemblance among Wisconsin men • Under certain conditions either model could be underidentified 	<p>1964 and 1975 graduate data, 1977 sibling data</p>	Gillespie (1991) and reply by Hauser (1991)
Hauser and Wong (1989), Lee (1989)	<ul style="list-style-type: none"> • No unusually high resemblance between brothers, but very low similarity between older sisters and younger brothers (Nebraska data) • Reciprocal effects of brother's levels of education, however unconstrained effect of older brother's schooling on younger brother's schools was larger than reciprocal effect (Kalamazoo data) • WLS data used to look at mixed-gender and like-gender pairs 	<p>Benin and Johnson's (1984) Nebraska sibling sample</p> <p>Olneck's (1976) Kalamazoo brother sample</p> <p>1957, 1964, and 1975 graduate data, 1977 sibling data, administrative record data</p>	Degraaf and Huinink (1992), Toka and Dronkers (1996), Sandefur and Wells (1999), Sieben and De Graaf (2001)

Publication(s)	Findings	Data Used	Reactions
Hauser, Sheridan, and Warren (1999)	<ul style="list-style-type: none"> • Explored family effects on status attainment across the life course • Family educational attainment is largely due to cognitive ability and family levels of occupational standing are determined primarily by family education levels 	1957, 1965, 1975 and 1992 graduate data, 1977 and 1993 sibling data, administrative record data	
Hauser and Sewell (1985), Retherford and Sewell (1991), Sewell and Retherford (1993)	<ul style="list-style-type: none"> • No effects of birth order on intelligence scores or educational attainment under a variety of specifications 	1975 graduate data, administrative record data Zajonc's (1976) Dutch data	Zajonc, Markus, et al. (1991) and response by Retherford and Sewell (1992)
Kuo and Hauser (1996; 1997; also, see Kuo and Hauser 1995; Hauser and Kuo 1998)	<ul style="list-style-type: none"> • No effects of birth order or gender composition on educational attainment or on effects of social background on educational attainment • Men's education affected more by social background and more variable within families than women's educational attainment • Family effects on educational attainment less variable in large than small sibships 	1975 graduate data Occupational Changes in a Generation, 1973 Survey of Income and Program Participation National Survey of Families and Households	

Table 5: Selected WLS Research Themes from the 1980s to the Present

Publication(s)	Findings	Data Used
Family Processes		
MacDonald and Rindfuss (1981)	<ul style="list-style-type: none"> • Found no support for Easterlin hypothesis that marriage will occur earlier when young men believe they have favorable economic prospects relative to their parents 	1957, 1964, and 1975 graduate data, administrative record data
Janssen and Hauser (1981)	<ul style="list-style-type: none"> • Catholic and farm reared women have higher fertility than non-Catholic and non-farm women 	1957 and 1975 graduate data, administrative record data
Retherford and Sewell (1988; 1989)	<ul style="list-style-type: none"> • Women's contribution to fertility decline is greater than men's largely because women's higher educational is a particularly important factor affecting fertility decline 	1957 and 1975 graduate data, administrative record data
Sweeney (1997)	<ul style="list-style-type: none"> • Explored several theories of remarriage and found that with few exceptions men's SES prospects are not important predictors of remarriage however, women's SES prospects are very important determinants of remarriage • Different theoretical perspectives best explain remarriage of women based on age of separation 	1975 and 1992 graduate data, administrative record data
Warren and Hauser (1997)	<ul style="list-style-type: none"> • Explored impact of third generation on intergenerational mobility • Grandparent characteristics affect grandchildren's occupational status only when parents' characteristics aren't controlled for 	1957, 1975 and 1992 graduate data, 1977 and 1993 sibling data, administrative record data

Publication(s)	Findings	Data Used
Cognitive Ability and Its Consequences		
Hauser, Warren, Huang, and Carter (2000)	<ul style="list-style-type: none"> • Reviewed trends in mobility rates and intergenerational stratification • Assessed role of cognitive ability in attainment processes 	Occupational Changes in a Generation, 1962, 1973 General Social Survey National Longitudinal Survey of Youth 1975 and 1992 graduate data, administrative record data
Hauser (1998)	<ul style="list-style-type: none"> • While occupations vary in average cognitive ability, there is also great overlap in measured ability across occupations 	1964, 1975, and 1992 graduate data, administrative record data General Social Survey
Hauser (2000)	<ul style="list-style-type: none"> • Net of cognitive ability, education has a positive effect on both political and social participation • Net of education, cognitive ability has little effect on political or social participation 	1976 American National Election Survey data 1974-1990 General Social Survey 1975 WLS graduate data, administrative record data
Social Roles and Well Being		
Marks (1996)	<ul style="list-style-type: none"> • Overall single people at midlife have lower psychological well-being than married people, however there are some notable exceptions • These results can't be explained by the negative selection hypothesis 	1992 graduate data

Publication(s)	Findings	Data Used
Marks (1998)	<ul style="list-style-type: none"> • About 1/3 of all WLS graduates have provided personal care to a disabled relative or friend during their life • The relationship between caregiving and the health of the caregiver varied by type of care, person cared for, type of health outcome, and gender of caregiver 	1992 graduate data
Carr (1997)	<ul style="list-style-type: none"> • Women who achieved their occupational goals had higher levels of psychological well-being and lower levels of depression 	1957, 1975, and 1992 graduate data, administrative record data
Carr and Sheridan (1999)	<ul style="list-style-type: none"> • Women's decisions to return to school at midlife were associated with a variety of family and personal factor • Men's decisions to return to school at midlife were affected largely by prior work experiences 	1957, 1975, and 1992 graduate data
Seltzer, et al. (2001)	<ul style="list-style-type: none"> • Parents of adult children with developmental disabilities experience high levels of psychological well being • Parents of adult children with mental illness experience depression, physical symptoms, and high levels of alcohol use 	1957, 1975, and 1992 data for graduates. 1977 and 1993 data for siblings
Socioeconomic Status and Health		
Marmot, Ryff, et al. (1997)	<ul style="list-style-type: none"> • Provides evidence for SES gradient in health • Inclusion of several health and SES measures indicates that the SES gradient does not just apply to mortality 	1975 and 1992 graduate data NSFH data Whitehall II
Miech and Hauser (2001)	<ul style="list-style-type: none"> • In general occupational standing did not substantially affect health outcomes net of educational attainment • Comparisons of occupation-based measures indicated the occupational education was the best 	1992 graduate data
Marks and Shinberg (1998)	<ul style="list-style-type: none"> • SES predicted menopause-related hormone usage even after controlling for a wide range of variables • Most robust SES predictor was a woman's husband's occupational status 	1957, 1975, and 1992 graduate data, administrative record data

Publication(s)	Findings	Data Used
Shinberg (1998)	<ul style="list-style-type: none"> • Hormone therapy is positively associated with risk of surgical menopause but negatively associated with risk of natural menopause • Educational attainment is inversely related to both natural and surgical menopause but acts through more proximate health determinants 	1975 and 1992 graduate data, administrative record data
MacLean and Hauser (2000; 2001)	<ul style="list-style-type: none"> • There is slight resemblance among siblings in current depression, which is largely situational • Among socioeconomic variables, wealth is most highly predictive of current depression 	1992 graduate and 1993 sibling data

Table 6. Methodological Contributions Using WLS Data

Publication(s)	Findings
Hauser and Goldberger (1971)	<ul style="list-style-type: none"> • Treatment of unobserved variables in path analysis • MIMIC model
Hauser (1973)	<ul style="list-style-type: none"> • Impact of disaggregating indexes
Alwin (1973)	<ul style="list-style-type: none"> • Use of factor analytic techniques for the construction of linear composites
Pavalko and Lutterman (1973), Sewell and Hauser (1975)	<ul style="list-style-type: none"> • Effects of non-response bias
Featherman, Hauser, and Sewell (1974)	<ul style="list-style-type: none"> • Development of comparable data in national mobility studies
Hauser (1974)	<ul style="list-style-type: none"> • Problems in contextual analysis
Alwin and Hauser (1975)	<ul style="list-style-type: none"> • Effect decomposition in path analysis
Mason, Hauser, et al. (1976)	<ul style="list-style-type: none"> • Extent and nature of proxy report bias
Sewell and Hauser (1975)	<ul style="list-style-type: none"> • Comparability of results to state and national data sets
Bielby and Hauser (1977)	<ul style="list-style-type: none"> • Development and used of structural equation models
Bielby, Hauser, and Featherman (1977c; 1977b; 1977a)	<ul style="list-style-type: none"> • Socioeconomic models with errors in variables
Clarridge, Sheehy, and Hauser (1977)	<ul style="list-style-type: none"> • Techniques for locating and interviewing members of a panel
Hauser (1978b; 1980; 1981)	<ul style="list-style-type: none"> • Methods for exploratory analysis of mobility tables
Hodson (1985)	<ul style="list-style-type: none"> • Explored functional forms of earnings regressions
Allison and Hauser (1991)	<ul style="list-style-type: none"> • Response error models with incomplete data
Hauser (1982; 1994), Hauser and Warren, (1997), Warren, Sheridan, and Hauser (1998)	<ul style="list-style-type: none"> • Measuring socioeconomic status of occupations, persons, and families
Singer, Ryff, et al. (1998)	<ul style="list-style-type: none"> • Proposed and developed a person-centered strategy, rather than variable-centered strategy for understanding life histories

Figure 1. Survey and Administrative Record
Data in the Wisconsin Longitudinal Study

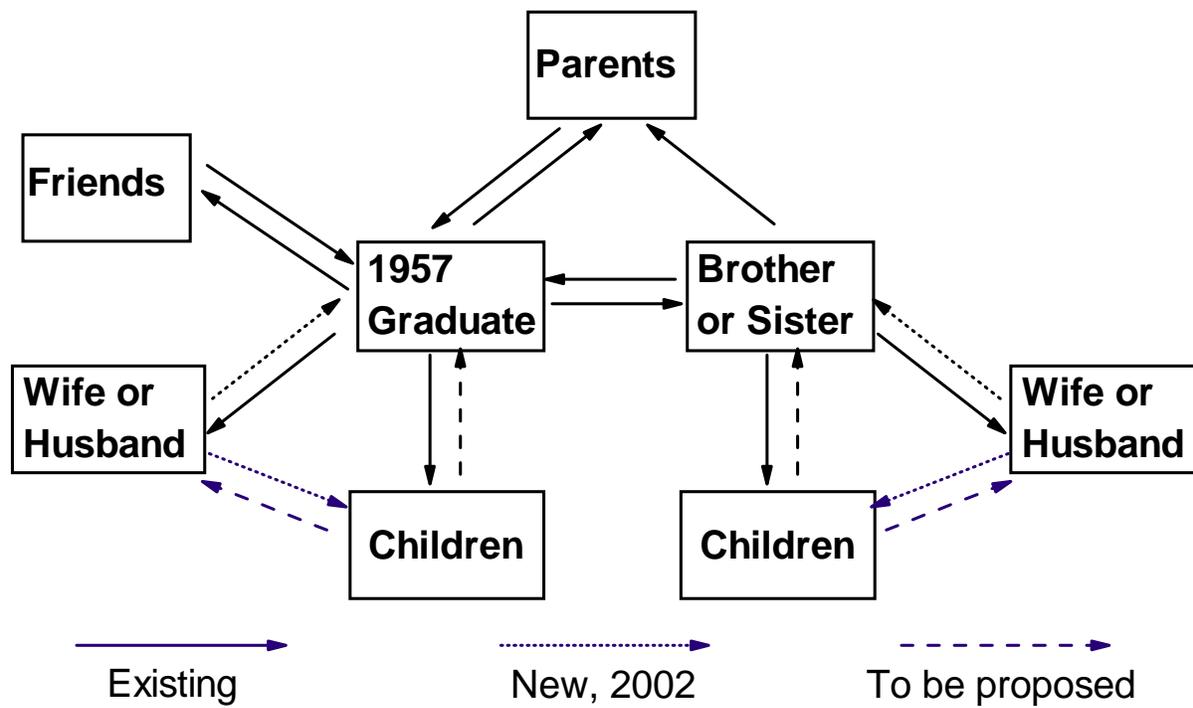
Sources of Survey Data:

- 1957 Senior Survey of Graduates
- 1964 Postcard Survey of Parents
- 1975 Telephone Survey of Graduates
- 1977 Telephone Survey of Siblings
- 1992 Telephone/Mail Survey of Graduates
- 1994 Telephone/Mail Survey of Siblings
- 2002-03 Telephone/Mail Surveys of Graduates, Siblings, Spouses, and Widows

Complementary Public or Administrative Record Data:

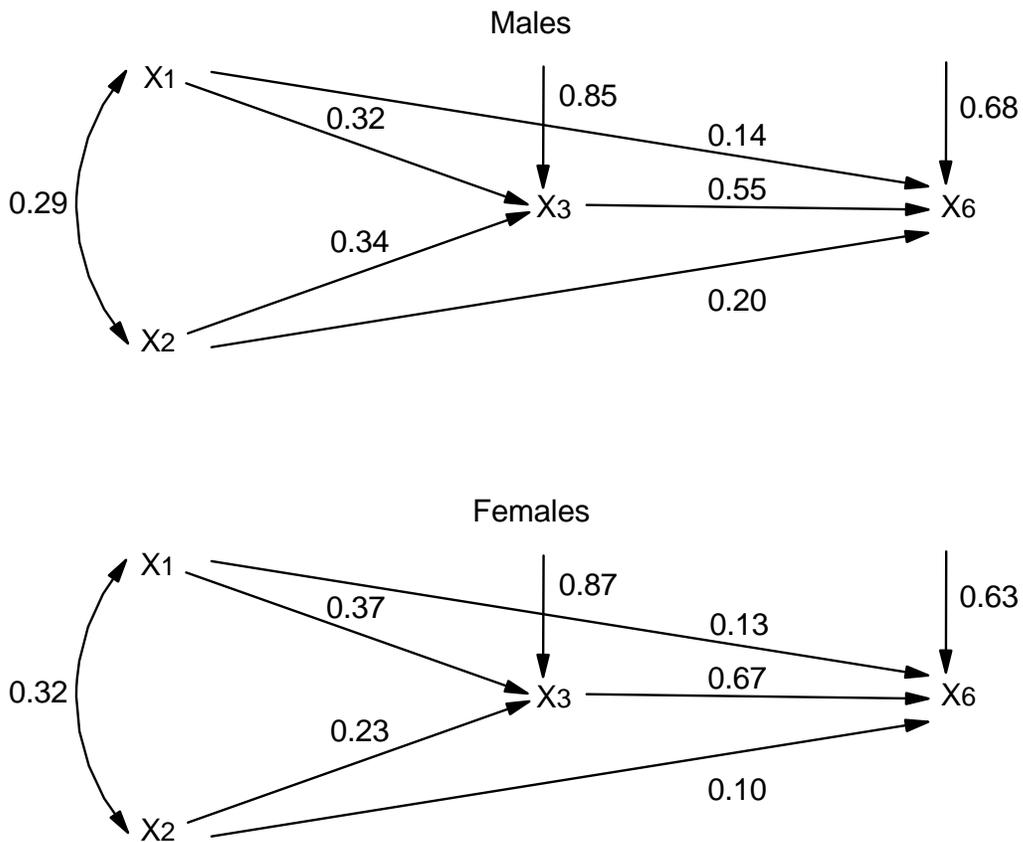
- Henmon-Nelson Mental Ability (9th and 11th grades)
 - Rank in High School Class
 - Parents' Adjusted Gross Income, 1957-60
 - Male Graduate's earnings, 1957-71
 - College Characteristics
 - Employer Characteristics, 1975
 - National Death Index-Plus
-

Figure 2. Relational Links in the Wisconsin Longitudinal Study



Arrows go from source to subject of reports .

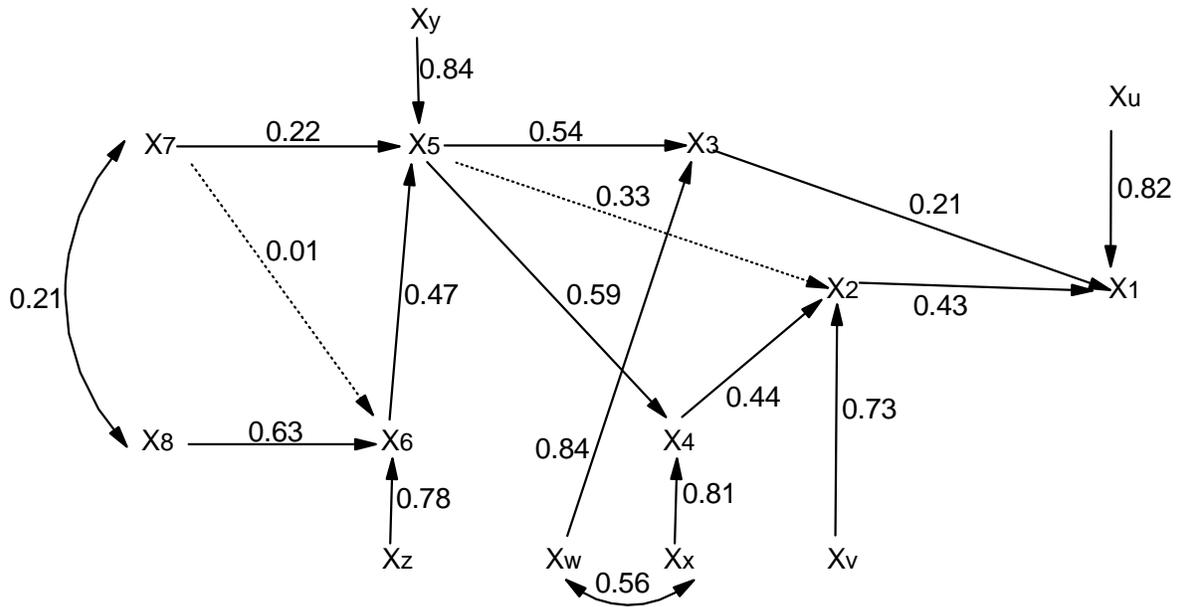
Figure 3. Influence of Socioeconomic Status and Cognitive Ability on the Attainment of Higher Education



X1 = Socioeconomic status
 X2 = Measured mental ability
 X3 = College plans
 X6 = Educational attainment

Note: After Sewell and Shah (1967)

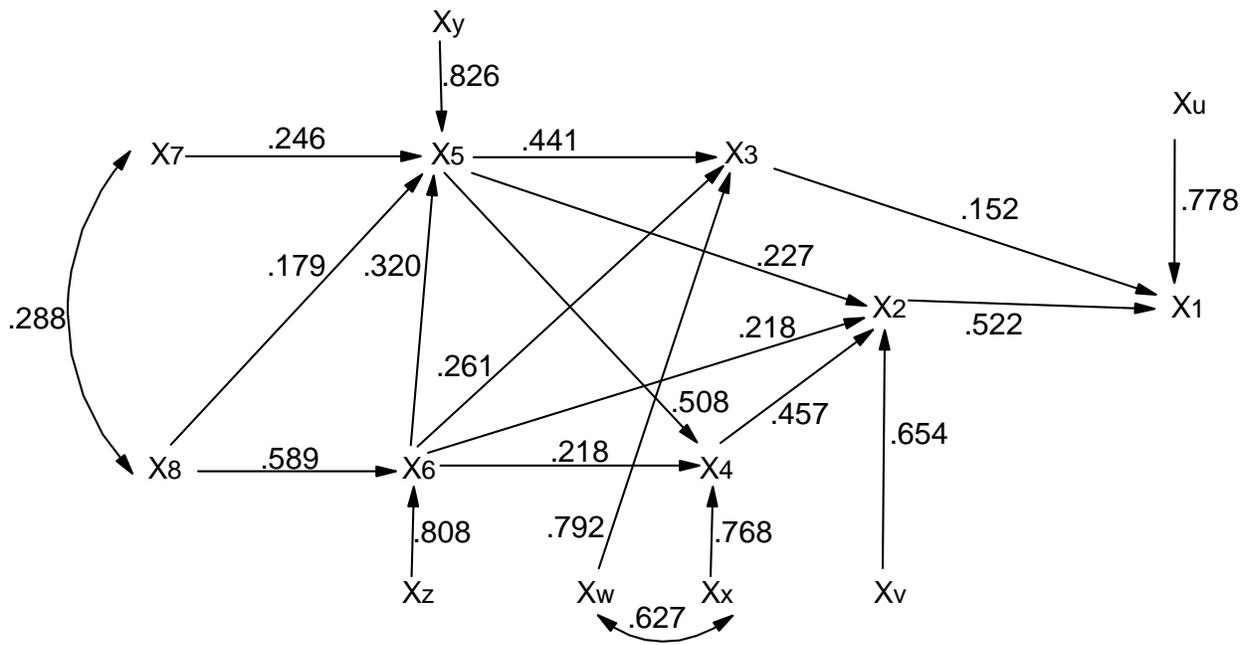
Figure 4. Antecedents of Educational and Occupational Attainment among Wisconsin Men of Farm Origin



- | | |
|---------------------------------------|------------------------------------|
| X1 = Occupational attainment | X5 = Significant others' influence |
| X2 = Educational attainment | X6 = Academic performance |
| X3 = Level of occupational aspiration | X7 = Socioeconomic status |
| X4 = Level of educational aspiration | X8 = Measured mental ability |

Note: After Sewell, Haller, and Portes (1969)

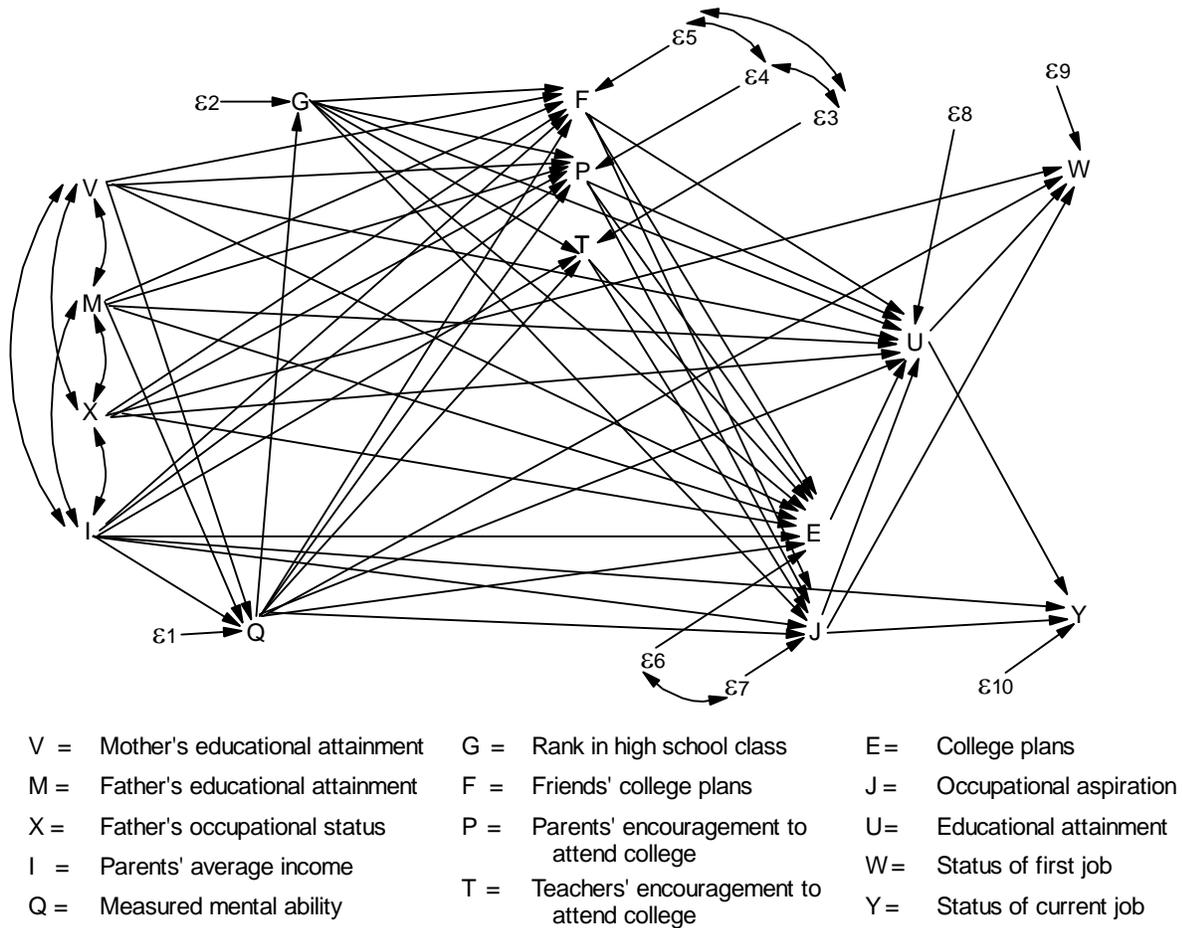
Figure 5. Antecedents of Educational and Occupational Attainment with Revised Model for Total Sample



- | | |
|---------------------------------------|------------------------------------|
| X1 = Occupational attainment | X5 = Significant others' influence |
| X2 = Educational attainment | X6 = Academic performance |
| X3 = Level of occupational aspiration | X7 = Socioeconomic status |
| X4 = Level of educational aspiration | X8 = Measured mental ability |

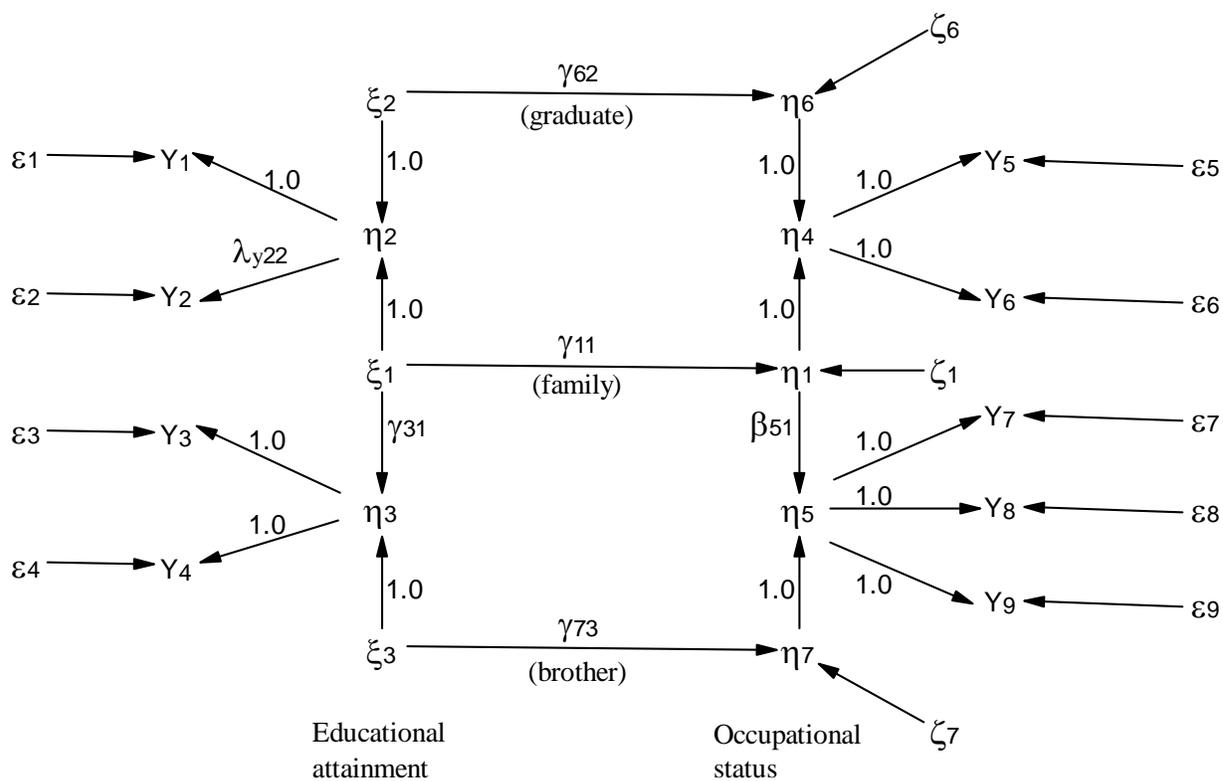
Note: After Sewell, Haller, and Ohlendorf (1970)

Figure 6. Disaggregated Model of Education, Occupation, and Earnings



Note: After Sewell and Hauser (1975)

Figure 7. Sibling Resemblance in Educational Attainment and Occupational Status

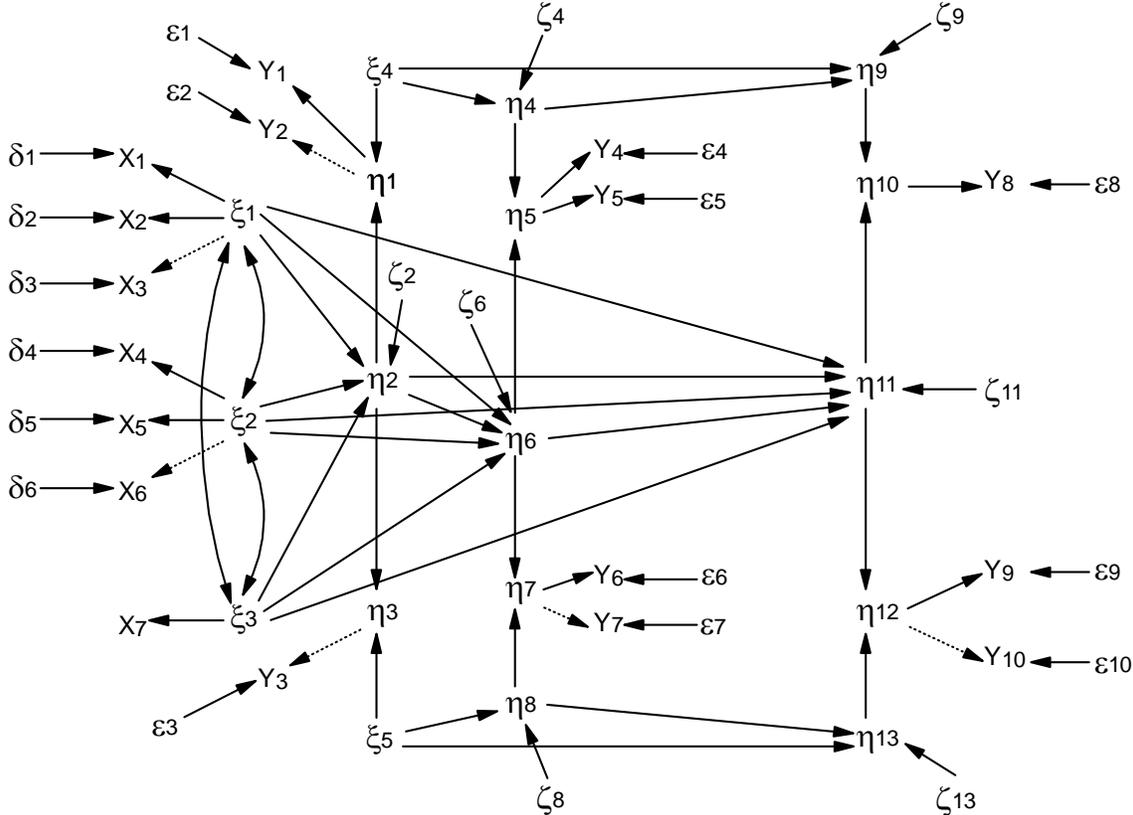


Y1 = Educational attainment of graduate (1975)
 Y2 = Educational attainment of graduate
 (from parent, 1964)
 Y3 = Educational attainment of brother (1977)
 Y4 = Educational attainment of brother
 (from graduate, 1975)

Y5 = Occupational status of graduate (1975)
 Y6 = Occupational status of graduate (1970)
 Y7 = Occupational status of brother (1977)
 Y8 = Occupational status of brother
 (from graduate, 1975)
 Y9 = Occupational status of brother (1970)

Note: After Hauser and Mossel (1985)

Figure 8. Family Effects on Ability, Schooling, and Occupational Status



X_1, X_2, X_3 = Father's educational attainment	Y_4, Y_5 = Graduate's educational attainment
X_4, X_5, X_6 = Father's occupational status	Y_6, Y_7 = Sibling's educational attainment
X_7 = Number of siblings	Y_8 = Graduate's occupational status
Y_1, Y_2 = Graduate's mental ability	Y_9, Y_{10} = Sibling's occupational status
Y_3 = Sibling's mental ability	

Note: After Hauser and Sewell (1986)

NOTES

¹ These test scores, almost all on the Henmon-Nelson Test of Mental Ability, are described interchangeably below as mental ability, cognitive ability, or intelligence.

² See Sewell (1988) for additional details about the origins of the WLS.

³ Recently, we added state archival data on high school district resources from 1954 to 1957 (Olson and Ackerman 2001a; 2001b).

⁴ In recent years, the hypothesis of neighborhood and community influence on the life-chances of youth has resurfaced as a theme of research on the urban underclass, and such effects have again been elusive.

⁵ Our measure of perceived parental encouragement has occasionally been misinterpreted as a proxy for (unmeasured) parental attitudes and behaviors toward the child. That interpretation is incorrect, for we believe the child's perception of his parents' encouragement is more consequential in the foundation of aspirations. The linkage between encouragement by parents and the child's perception of it is worthy of study in its own right, but it has not been an issue in our research.

⁶ Neither do these findings support the recent practice of indexing parental education with the attainment of the more highly educated parent.

⁷ We have never held these data in identifiable records.

⁸ For additional discussion of the relationship between the Blau-Duncan model and the Wisconsin model, see (Sewell and Hauser 1992).

⁹ Indeed, one misinformed secondary investigator reported that the WLS sample did not include women (Wilson 1989).

¹⁰ Based on subsequent studies of occupational measurement, we are now convinced that much

of the work described below is partially flawed by its reliance on indexes of occupational socioeconomic status that combine levels of occupational education with levels of occupational income. Female and male incumbents in the same jobs differ in educational attainment and – especially – in income. Thus, comparisons of occupational levels between women and men differ as a function of the weights given to occupational education and income. This problem primarily affects mean levels of occupational standing; it has smaller effects on relationships involving occupational status measures (Hauser and Warren 1997; Warren et al. 1998).

¹¹ This finding was confirmed and extended to the 1990s (for graduates in their mid-50s) by Sheridan (2001).

¹² In Sheridan's study, the shifting gender compositions of occupation categories from 1960 to 1990 was taken into account.

¹³ Even in this instance, however, the direct affect of academic ability on post-schooling attainments remains very small.

¹⁴ We have not attempted to review the hundreds of newer (post-1980) publications, which may be located in the Social Science Citation Index.

¹⁵ Also, see Knottnerus's (1987) thoughtful essay on the image of society in contemporary stratification research.

¹⁶ But see Olson and Ackerman (2000; 2001b) for new evidence that high school resources have long-term effects on earnings of WLS graduates.

¹⁷ Couch and Dunn's (1997) comparison of intergenerational income correlations between the U.S. and Germany is an egregious example of failure to control work experience.

¹⁸ In fact, one insightful passage in Blau and Duncan (1967:320-28) anticipated many strengths and problems of models of sibling resemblance.

¹⁹ Since the mid-1970s, well designed studies of sibling resemblance in youth have proliferated.

These include the National Longitudinal Study of Youth and the Adolescent Health Survey.

²⁰ Hauser and Mossel (1988) provided a more extensive methodological treatment of these models, including detailed documentation of estimation procedures.

²¹ Gillespie (1991) and Hauser (1991) debated the value of these models.

²² Compare Herrnstein and Murray's (1994) excessive claims about the importance of cognitive ability in social stratification (also, see Hauser et al. 2000).

²³ Interest in birth order effects was again revived by the claims of Sulloway's (1996) grandiose and controversial treatise.

²⁴ Retherford and Sewell (1993) confirmed these findings in an analysis of birth order and educational attainment using like-gender and cross-gender pairs. This strategy had the advantage of controlling for both the measured and unmeasured aspects of family background.

²⁵ Zajonc and his colleagues (1991) claimed that WLS siblings and graduates had taken the Henmon-Nelson test at different ages, when all had taken the test in the 11th grade.

²⁶ Kuo and Hauser's (1995) study of trends in the educational homogeneity of brothers reviews other sibling-based studies of educational stratification.

²⁷ Retherford and Sewell (1993) looked for birth-order effects on first and current occupation for like-gender and cross-gender sibling pairs using the WLS data; they found none. Hauser, Kuo, and Cartmill (1997) looked intensively for birth-order effects on adult personality, and, again, there were none to be found.

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