# The Wisconsin Longitudinal Study: Social Origins, Aspirations, Achievement, and Health Across the Life Course

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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. 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. 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. 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, and it was used to plan the expansion and consolidation of public higher education in the State.

In 1962, William H. Sewell, one of the academic leaders who brought the behavioral and social sciences into NIH, 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, but he had lacked access to an appropriate population for study. At that time, social scientists had little real evidence about the extent of social and economic mobility between generations in the United States. Only in 1962 was the first large national study of social mobility in America conducted. Researchers could do little more than speculate about the processes of selection and socialization that accounted for social stability or social movement.

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. 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. Thus began a research program that is entering its fifth decade and that now focuses on the life-long antecedents of health and aging.

The 1950s were a lively period in American sociology and social psychology. 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 *Adolescent Society* and Albert J. Reiss, Jr.'s studies

of Nashville youth. Sociologists of that time—and later times—were also captivated by Ralph Turner's 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, such as the studies of exceptionally able youth initiated by Lewis Terman and the two small studies of youth in California communities that were made famous by Glen Elder and John Clausen. In addition, the WLS 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—is there likely to be a national longitudinal study of women and men that compares favorably with the WLS both in size and coverage of the life course.

#### The Wisconsin Model

In the early years WLS research focused mainly on the ways in which adolescent achievements and aspirations were formed and then influenced post-secondary schooling and occupational careers. This work led to the so-called "Wisconsin Model of Status Attainment" (see Figure 1), which became a template for much later research on the life course – and for critical attention to the social psychological theory of the model.

The essential ideas of the model are as follows: Social background affects school performance. These two sets of variables affect social influences – the expectations and modeling behaviors of significant others. Social influences largely determine educational and occupational aspirations, thus carrying much of the influence of social background and school performance. Aspirations, in turn, have large effects on post-secondary schooling and occupational careers, and they carry much of the influence of social influences, school performance, and social background.

The key theoretical idea of the model is the importance of social psychological processes in mediating the connections between positions in the social structure across generations. This idea now seems simple because it is widely accepted among social scientists. The model is also simple in a second, more important sense, that it is a modified causal chain. Not every earlier variable affects every later variable in the scheme. Of fifteen possible paths from antecedent variables in Figure 1, only the seven paths marked with "\*" carry large effects.

Social Background

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Social Influences

Education

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Outcome variables

School Performance

Aspirations

Figure 1. The Wisconsin Model

The distinctive scientific contributions of the Wisconsin project lie not merely in proposing the model, but in testing it by means of careful measurement – and remeasurement – of key variables across the entire adult lives of the vast majority of participants in the study. For example, social background variables include 4 years of data on the incomes of parents of the graduates that were obtained from Wisconsin tax files, and nearly 8500 of 9750 surviving graduates participated in the most recent – 1992 – round of the study. The structural features of the model become simpler, stronger, and more powerful when measurement error is controlled and when data for sisters and brothers of the graduates are introduced to control for common, but unmeasured family background effects.

#### **WLS Data Across the Life Course**

What has this to do with aging? The importance of the WLS as a resource for studies of population aging depends on the extensive data that have been collected from 1957 onward – or even earlier in some cases – and on the investments that the National Institute on Aging began to make in the study in the early 1990s. The WLS can contribute to basic knowledge about the social, behavioral, and biological processes of aging in three fundamental ways. The first is by providing new information about the consequences of childhood and adolescent conditions and experiences. However, such long term effects may or may not be mediated by the conditions and experiences of adulthood. Thus, a second major contribution of the WLS is to provide new information about the extent to which early life conditions affect later life outcomes, above and beyond the known effects of the conditions and experiences of adulthood. Finally, because of its

rich, complete, and contemporaneous records of careers and family events – the WLS provides unique opportunities to analyze the characteristics of whole-life trajectories that may affect the quality and length of later life.

# Figure 2. 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
- Approved: 2002-03 Telephone/Mail Surveys of Graduates, Siblings, Spouses, and Widows

#### Available Public or Administrative Record Data:

- Henmon-Nelson Mental Ability (9<sup>th</sup> and 11<sup>th</sup> 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

#### Approved Public or Administrative Record Data:

- Birth records
- Elementary school resources
- Wisconsin state tumor registry
- Wisconsin health insurance plans
- Local health resources (Area Resource File and Interstudy data)
- Medicare enrollment and claim data
- Wisconsin Worker's Compensation records
- Geocoded addresses across the life course

Figure 2 provides a succinct overview of sources of survey data and types of administrative record data available or proposed for the WLS. After the 1957 survey of graduates, the next two waves of survey data were collected from the graduates or their parents

in 1964 and 1975. Those data provide 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. Early survey data were supplemented by 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. Recently, state archival data on high school district resources from 1954 to 1957 were added. 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, and permission from the Social Security Administration will be sought in order to obtain full earnings and disability histories for male and female graduates and their selected siblings.

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

In 1992-94, the WLS conducted four major surveys with NIA support: telephone and mail surveys of graduates and nearly identical telephone and mail surveys of an expanded random sample of focal siblings. Measurements included marital status, child-rearing, education, labor force participation, jobs and occupations, social participation, and future aspirations and plans among graduates and siblings. The content of earlier follow-ups was expanded to include psychological well-being, mental and physical health, wealth, household economic transfers, and social comparison and exchange relationships with parents, siblings, and children.

In 1975, WLS concepts and measures resembled those of the Current Population Survey (CPS) and the 1973 Occupational Changes in a Generation Survey (OCG). In 1992, continuity was balanced 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). The WLS design was also coordinated with members of the MacArthur Foundation Research Network on Successful Midlife Development, with Michael Marmot's Whitehall II study, and with Michael Wadsworth's longitudinal cohort study of births in Great Britain in 1946.

In 1992, the 1-hour telephone interview covered life history data, family rosters, and job histories, which have many skips or branches. The mail instrument also adds 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

<sup>&</sup>lt;sup>1</sup> The author joined the project in 1969 and has been Principal Investigator since 1980.

information about relationships between the focal sibling and other family members—including indicators of childhood abuse.

Recently, the WLS matched graduates and siblings to the National Death Index-Plus (NDI-Plus)—using SSNs, names, and birthdates as identifiers—in order to obtain cause(s) of death and confirm date and place of death. Similar searches are underway for parents of the graduates and siblings.

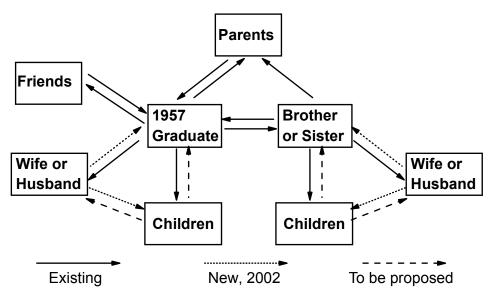
The WLS sample design has become increasingly complex over time, but a fair summary is that, in 1992, telephone interviews were completed with 8493 WLS graduates out of 9741 survivors and with 4804 randomly selected siblings out of 6260.

New surveys of WLS participants will be carried out beginning late in 2002, when graduates will be 63 and 64 years old. As in the 1992-94 round of the study, WLS graduates and the sample of their brothers and sisters will first be interviewed by telephone for about one hour. All surviving members of the samples will be contacted, whether or not they participated in the last round of the survey. Telephone interviews will be followed by mail-out, mail-back surveys, which will be longer than in 1992-94 – 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. Permission will be obtained from WLS participants to tape-record randomly selected telephone interviews in anticipation of a proposal to support subsequent behavior coding of respondent cognition and interaction with interviewers. To prepare the way for studies of joint survivorship and (eventual) widowhood – and to cross-validate reports from graduates and their siblings – shorter (30 minute) interviews will be carried out with their spouses and with approximately 900 widows or widowers of graduates and siblings. These interviews will focus mainly on health and family relations.

The new round of WLS data collection will also include matches with several sets of public record data, ranging from the resources of elementary school districts in the 1940s to additional sweeps of mortality records by cause of death in the National Death Index.

Figure 3 suggests another way of looking at the WLS study design, in terms of the set of role-relationships about which the study provides information. 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 3, 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 have proposed to interview spouses (and widows) in this wave of the study, and we hope to add children soon thereafter.

Figure 3. Some Social Links in the Wisconsin Longitudinal Study



Arrows go from source to subject of reports .

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.

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 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 the Health and Retirement Survey (HRS) in 1992, and this provides continuing 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. It is 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, and there is no way to generalize from the WLS to the unique conditions of these population groups. 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 30% lived elsewhere in the U.S. or abroad. 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 within the range 10 years older to 10 years younger than the graduates.

## A Few Recent Findings from the WLS

## Social Stratification

Some recent work with the WLS has continued the studies of social and economic stratification that dominated the early years of the project. Hauser and Sweeney 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 WLS 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 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.

Warren, Hauser, and Sheridan extended these analyses to model sibling resemblance in cognitive ability, educational attainment, and multiple measures of occupational standing across the career. The effects of family background on occupational standing – including both measured social and economic characteristics and other, unmeasured characteristics – operate entirely through their effects on adolescent cognitive ability and educational attainment. Beyond those two important baseline qualifications, occupational careers are essentially independent of common family influences. The effects of education decline across the life course, while the effects of ability remain small but persistent. Unexplained interpersonal variation in occupational achievement grows across the life course, so occupational inequalities increase with age. However, career trajectories form a causal chain, in which early career positions affect later-life position only through intermediate occupational positions. Thus, life-long career trajectories display properties of increasing differentiation and inequality, but they are not processes of cumulative advantage or disadvantage. Rather, the effects of initial career conditions tend to dissipate across the life course.

#### Social Roles and Well Being

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 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 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 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 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 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

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 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 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 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 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 discussed 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 the 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 used 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.

## Methological Contributions

It is difficult to separate the methodological from the substantive contributions of the WLS. The main interests of the investigators have always been substantive, not methodological. However, a number of methodological contributions originated in the day-to-day work of the project or in consideration of strategies for the analysis of stratification processes. 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; 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.

## The Future of the Wisconsin Longitudinal Study

The next stage of the project, recently approved by the National Institute on Aging, begins with surveys in 2002-03 of the WLS graduates and siblings; the graduates will be 63-64 years old when they are surveyed. The surveys are being designed and carried out by an interdisciplinary team of researchers who will extend, enrich, and complement previous 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.

The project 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. It 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. The surveys 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. The will obtain extensive measures of social and civic engagement and of social isolation. They will also permit intensive study of the effects of children's problems and successes on their parents—including the effects of child disability, mental illness, or early death. The surveys will obtain new and more extensive measures of cognitive functioning. They will obtain detailed data on insurance and pension coverage and on medical, legal, religious, and psychological

preparation for the end of life. New survey data will be complemented by selective, but representative samples of medical and neurological examinations.

There is every reason to expect that the WLS will continue to be an important resource of research on aging and the life course for decades to come. In this regard it is both a blessing and a curse that the sample is almost entirely composed of non-Hispanic whites who have completed high school. Based on recent U.S. life tables, there is good reason to expect that more than half the women graduates in the WLS and more than a third of male graduates will live to at least 2022, when they will be 83 and 84 years old. Thus, the forthcoming round of the WLS is not an end, but a new beginning.

As the WLS becomes a full-fledged study of aging, it should serve a very broad agenda of research and policy interests. All of the data created by the project will be available to any qualified researcher; sensitive data will be accessible through a secure data enclave at the University of Wisconsin-Madison. The research agenda 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, to the influence of life-course events and conditions on the structure and functioning of the brain. No smaller agenda will justify the long-term investment that investigators, students, funding agencies, and an exceptionally generous cohort of research participants have made in the Wisconsin Longitudinal Study.