

Evolution and Change in Family Income, Wealth, and Health: The Panel Study of Income Dynamics, 1968–2000 and Beyond

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The origins of the Panel Study of Income Dynamics were in Lyndon Johnson's War on Poverty, when the Office of Economic Opportunity directed the U.S. Census Bureau to conduct a nationwide assessment of the extent to which the War on Poverty was affecting people's economic well-being—in short, were we winning or losing? This Census Bureau study, called the Survey of Economic Opportunity, completed interviews with about thirty thousand households, first in 1966 and again in 1967.

An interest in continuing this survey of economic trajectories in a flexible, university-based research environment led James D. Smith and his OEO colleagues to approach James Morgan and his Economic Behavior Program colleagues at the Survey Research Center (SRC) at the University of Michigan. The proposal was to interview for five years a nationally representative subsample of approximately two thousand low-income SEO households. Morgan and his EBP colleagues (Lansing, Katona, Mueller, Stafford, and others) had among them extensive prior experience in economic surveys, especially in the postwar study of income, spending, and wealth; and Morgan, lead author of the 1962 book *Income and Welfare in the United States*, was a natural choice to lead the new study.

Initially, Morgan was reluctant to take the study on because the OEO design called for following only low-income households. He argued for the virtues of complete population representation, pointing out, for example, that understanding why nonpoor households fell into poverty was at least as interesting as knowing why poor households climbed out. Fortu-

nately for scientific progress, he was able to convince OEO to fund a different design. In this new design two thousand randomly chosen OEO households that were in poverty at the time were combined with a fresh cross section of about three thousand households from the SRC national sampling frame. When weighted, the combined sample was representative of the entire population of the United States, including nonpoor as well as poor households. As a further research advantage, the disproportionately large number of low-income households produced large analysis samples of blacks and other disadvantaged groups.

In the Beginning (and Implications Beyond)



The other innovative design element, widely discussed within the EBP and the sampling section of SRC, was the idea of following the children of sample families as they left to form their own households. To follow such “split offs,” it was argued, would offset the problem of panel attrition. And by continually adding these young families, a panel study could provide a continuous self-representing sample of the U.S. population. The PSID research planners realized that including the newly formed families of children who left to live on their own would both provide continued representation of such young families and support the study of early adult experiences of children from different economic backgrounds and poverty exposures (Hill 1992). This element of genealogy-based design, which allows the study to maintain the representation of the young (with weights) and to observe the effects of family background, was a momentous event in survey design history. In effect, the PSID follows a bloodline, not a person. Use of this insight opened up the eventual study of inter-generational connections.

When played out over more than thirty years, these design features enable the PSID to provide the following data:

1. Data on a nationally representative cross section of families and individuals in 1968;
2. Data on nationally representative annual cross sections from 1969 through 1999 of families and individuals descended from the original 1968 sample (but excluding effects of immigration, which were corrected for in 2001);
3. Thirty-year-plus longitudinal data on individuals in the initially

- representative 1968 sample, including generational outcomes for children observed both when they were living with their parents and long after they struck out on their own in adulthood; and
4. Shorter-run comparative longitudinal data on representative cohorts of individuals at any point between 1968 and 1999.

These design features and other tangible and intangible elements of data quality¹—response rates have been high and largely random with respect to observable variables (Fitzgerald, Gottschalk, and Moffitt 1998)—have combined to make the PSID one of the most widely used and influential data sets in the social science research community. As of early 2000, over one thousand PSID-based articles have appeared in over one hundred different refereed journals; and the bibliography lists about three thousand publications, dissertations, and working papers. From 1972 to 1999 over 250 Ph.D. dissertations used PSID data. In the period 1995–99 over 325 published papers appeared using PSID data. This represents a significant rise in the rate of publication over prior five-year intervals, indicating that the research value of such a panel can accelerate decades after the initial wave. The uses are so broad that these numbers are surely undercounts. In the 1990s, publication rates were approximately five per year in the top four economics journals, six per year in the top labor-economics journals, and five per year in the top five sociology and family journals.² This extensive use of the PSID has led it to be on the National Science Foundation’s list of its fifty most significant projects in its fifty-year history. In this group of the “Nifty Fifty,” as they are called, the PSID is the only social science project. One cannot hope to present a comprehensive summary of what has been learned from these many studies. Our approach is decidedly selective.

Probably unappreciated at the design phase was the enormous long-run challenge of keeping track of all these family histories that were to accumulate from this genealogical or steady state design. Remember, the study had been established to continue for five years, and continuance beyond that was just the normal researcher’s hope of study longevity. The first interview was a simple respondent-friendly thirty-two-page questionnaire, and pages 31 and 32 were done by interviewer observation only.

Elements of the postwar study of consumer behavior were evident. In Section C (on cars), the question “What year model/make is it?” was asked of each car, along with its condition (e.g., good, fair, poor), insurance, car payments, and annual repair costs. Multiple cars, like multiple

individuals within a family, give rise to various types of relational data. The learning from earlier efforts to create files (for General Motors and Ford) with cars as the units of observation combined with characteristics of their owners provided important lessons. From this experience the PSID team was able to pioneer the construction of relational data files connecting individual family members and their personal characteristics to the characteristics (such as shared housing or family wealth holdings) of the families to which they belonged.

With time, the instrument grew dramatically longer and more involved. These factors of family evolution and instrument complexity operate multiplicatively in conjunction with temporal accumulation of prior information to challenge both the researcher's imagination and the archiving and processing team. For researchers it is safe to say there are analysis domains that have yet to be explored.

The year 1972 proved momentous for the PSID. Its original five years were coming to an end when President Nixon abolished the OEO virtually overnight. Responsibility for the PSID was transferred to the Assistant Secretary for Planning and Evaluation (ASPE) of the Department of Health, Education, and Welfare (now Health and Human Services), where visionary ASPE officials such as Larry Orr saw the value of continuing to support the PSID.

The year 1972 was also the first of Greg Duncan's twenty-five years with the project. As a second-year economics graduate student at Michigan, he was attracted to work at the SRC by Morgan's mile-a-minute course on survey methods and by the invaluable experience of spending his senior undergraduate year in Costa Rica as part of a field studies program. His first PSID tour of duty was as a data editor, reading the often lengthy interviewer explanations of complications that rendered responses to the PSID's many closed-ended questions problematic. The job required the ability to make sense of the individual family's demographic and economic data, which was done by observing the myriad events behind families' seemingly tumultuous economic fortunes and learning which pieces of data deserved the greatest trust.

The poverty focus of the PSID's early years had led to the inclusion of an eclectic set of supplemental measures that might be expected to differentiate families who climbed out of poverty from those who stayed poor. Thus, the first five annual questionnaires are filled with measures of locus of control, future orientation, achievement motivation, employment barriers, entrepreneurial activity, trust/hostility, avoidance of unnecessary risks, access to sources of information and help, and a short sentence-

completion test. Given the short interview length, these measures represented a large share of the early total content.

The inclusion of subjective measures in the PSID had some interesting intellectual history behind it. Some years earlier Milton Friedman had remarked that, for the Michigan EBP group, studying behavior was the most important objective: "Don't ask people what they think, ask them what they do!" The name of the research unit, the Economic *Behavior* Program, has its origins partly in this exhortation. So the use of subjective measurements and assessments had to meet the test of whether these variables could predict interesting economic behavior. The program, as it evolved, acquired a multidisciplinary flavor both from the active involvement of psychologists such as George Katona and from the interest of a small but highly effective group of mainstream economic advisors, including Jim Tobin, Larry Klein, and Guy Orcutt (two of whom were Nobel laureates).

In more recent work there are results indicating that some of the social-psychological measures included in the early PSID waves are much more predictive of long-run and intergenerational success than of short-run outcomes. Early analyses of the short-run (i.e., five-year) effects on labor-market earnings of measures such as personal control and achievement motivation failed to show robust and important connections (Duncan and Morgan 1981; Augustyniak, Duncan, and Liker 1985). However, when levels of labor-market success in the early 1990s are related to the early-wave measures of personal control and components of achievement motivation, much more powerful linkages emerge. The collection of twenty-five-year-old social-psychological measures accounted for as much of the variation in current earnings as did completed schooling! Thus, some of the measures have proved quite powerful in differentiating individuals according to their long-run (but not short-run) successes and failures.

While these influences are intriguing, simply populating the PSID instrument with a selection of interesting social-psychological measures would come at the cost of reduced coverage of the current core—a heavy price to pay. However, some measures might be asked for only one or two waves but not included as core variables. An example is the 1996 module on risk tolerance (Barsky et al. 1997). One hint that risk tolerance may matter for the long run comes from recent work on the intergenerational effects of these early-wave measures (Yeung, Duncan and Hill 2000). A boy's future success, as measured by eventual completed schooling and early career attainment, is shown to be enhanced by having a risk-averse father (i.e., reports fastening his seat belt, has car or medical insurance, etc.). Perhaps having a father who dampens rather than reinforces the excesses of

youth is beneficial for boys. At any rate, these two sets of long-run results suggest the value for attainment research of taking a very long view.

In the Middle Years, 1980–92



Based on this early lack of predictive power, however, attitudes and aspirations dwindled as a share of the questionnaire content. Other, more manageable analyses led to chapters published in the first of ten *Five Thousand American Families* volumes. By the late 1970s, after a decade of operation, the status of the PSID properly evolved from a poverty study into a unique longitudinal data resource for social scientists from several disciplines. The genealogical design was already paying off. Not only were there panel observations with which analysts could work, but the sample, with weights, could be used to describe the economic circumstances of the full U.S. population, not just the surviving remnant of an initial sample.

The broadening research themes beyond poverty spells, combined with ASPE's declining budget fortunes, led to a transfer of primary funding for the study from ASPE to the NSF. A major threat to the continuation of the PSID emerged when Reagan's first budget proposal for the NSF arrived on the scene: it recommended a 75 percent cut in social and economic science funding, a cut that was seen as a way station toward zero and would have done in the PSID. Had it not been for three years of emergency funding—orchestrated by then ISR director Tom Juster—from the Ford, Sloan, and Rockefeller Foundations, the PSID would have ended. Albert Rees of the Sloan Foundation remained deeply committed to the PSID and was an important sponsor well beyond the financial support that he helped to provide.

The content domains of the PSID data collection have always been twofold. The first is to maintain a clean and consistent time-series of core content—employment, family income, and family structure—based on the study's annual interviews. An example of the long-term payoff of this microdata-based panel is illustrated by work with the PSID to study wage dynamics over the business cycle (Abraham and Haltiwanger 1995). Only micropanel data can be used successfully to show that, net of a composition bias (changes in participation rates by different wage groups over the business cycle and specifically a disproportionate reduction in employment by low-wage workers in recessions), wages of individual workers really are flexible and move in phase with the business cycle.

The second data agenda item, dictated by the desire to maintain the capacity of the PSID to address contemporary research issues and, eventually, by the longer-term funding structure of the study, has been to complement the core with question supplements. Some of these topics, introduced originally as supplements, have proven to be of sufficient and persistent value that they have evolved into core content items. Notable among the components that have achieved the hard-earned right to be core topics are the National Institute on Aging-sponsored modules on wealth (in 1984, 1989, 1994, and every interviewing year starting in 1999—the first year of biennial interviewing). More recently, an enhanced set of health conditions (Section H) has moved to the category of core topics, and automobile ownership and purchases, originally in the PSID to understand transportation as a factor in poverty dynamics, has been reinstated as a core topic after a twenty-seven-year hiatus. The reason for this is to better understand the level and timing of durable expenditures *and* to understand transportation barriers to employment under state-specific limits to vehicle ownership by welfare recipients.

The surge of labor-market research in the 1970s led to the elimination of the PSID gender bias in the detail of questions asked of married women.³ Question supplements on work histories, labor-market attachment, and on-the-job training were added. In 1980, Morgan anticipated the interest in “social capital” and altruism by leading an effort to develop a question supplement on both past and possible future flows of time and money help between households (see Boisjoly, Hofferth, and Duncan 1995; Hofferth, Boisjoly, and Duncan 1998, 1999; Hofferth and Iceland 1998). These were exciting times because the research team had the freedom to conceive and develop supplements on contemporary topics. Coupled with the ever-expanding PSID time-series of core content, this freedom provided a growing national network of analysts with unique data drawn from a large national sample of households.

The nature of PSID operations changed somewhat when its major funding was taken over in the early 1980s by the NSF. An NSF board of overseers began to review and pass judgment on PSID operations. While many of their suggestions have improved the PSID considerably, the burdens of dealing with academic overseers proved considerable, at least in the initial stages of the arrangement. Perhaps this was because the study team had enjoyed such a high degree of autonomy up to that point. The creative elements of the PSID shifted more to the invention and design of question modules that supplemented the PSID’s demographic and eco-

nomic core. About 70 percent of what it took to collect and process the data was funded by NSF, so the project became increasingly dependent on federal agencies and, occasionally, private foundations to fund question supplements that would help cover the \$2.5 million (current dollar) annual cost.

The question supplements developed in the 1980s and early 1990s were funded primarily by the National Institute of Child Health and Human Development (NICHD), the Department of Health and Human Services, and the National Institute on Aging. This funding enabled the PSID to add valuable question supplements on fertility, health, wealth, children's schooling, and intergenerational transfers. A Ford Foundation-funded supplement sample of Latino households was implemented from 1990 to 1995. Funding was also secured for projects establishing links between PSID sample members and the National Death Index and between PSID respondent addresses every year and geographic identifiers. Having geographic identifiers such as census tracts, zip codes, and counties has enabled analysts to match contextual information from the decennial census and other sources to the interview information to explore the nature of neighborhood effects. These efforts have recently been revitalized and improved—to the benefit of the larger research community. Most exciting is that new methodologies are being developed for the analysis of spatial data. These will allow for formal modeling of to-be-estimated spatial aggregates and for modeling of changes in the environment resulting either from persons moving to a different location or from the environment at the location changing through time. This may give a boost to an empirical and theoretical literature in spatial economics, an area long dormant but believed to be due for renewed interest.

Operationally, these supplemental activities required a great deal of proposal writing and other entrepreneurial effort. This was carried out by a group of colleagues, in particular Greg Duncan (PSID codirector at the time), Martha Hill, Dan Hill, Charlie Brown, and Jim Lepkowski. Although burdensome, the process forced the team to branch out and develop a network of contacts in government agencies and to seek occasional private-sector funding. The process was facilitated by a remarkably capable and perceptive set of individuals heading research programs in government agencies, in particular, Richard Suzman in the NIA, Daniel Newlon in the NSF, and Jeffrey Evans in the NICHD, all of whom understood both the scientific issues and the mechanisms for converting research opportunities into funding. In 1994 Sandra Hofferth joined the

PSID as codirector. In 1995 Frank Stafford joined as codirector and serves as director and principal investigator of the PSID today. In 2001, Bob Schoeni became codirector of the study.

Some Lessons from a Long, Genealogical Panel



What a Family's Life Cycle Is Really Like

Despite the study's longitudinal nature, most analysts typically approached the first decade of PSID data as though they were drawn from a cross section. Longitudinal methods were not widely used in the 1970s, and the PSID questionnaire provided many novel measures that, when analyzed using cross-sectional methods, produced interesting and, most important, publishable articles. Many studies were inspired by the active program of research by the community of labor economists and focused on current popular topics, such as earnings differences between men and women and between union and nonunion workers. Many papers were written on the economic rewards of on-the-job training, childcare choices of working parents, and, using retrospective reports, intergenerational models of completed schooling.

Juxtaposed to the cross-sectional patterns, however, were results indicating a striking degree of economic turbulence and perhaps genuine mobility at all income levels (Morgan et al. 1974; Duncan et al. 1984). The hallmark finding, suggested by prior panel studies at EBP and strongly supported by the early panel analysis of the PSID, was great income fluctuation from one year to the next, producing many transitions into and out of both poverty and affluence and onto and off the welfare rolls. Moreover, other important changes frequently took place: roughly one in five families changed composition from one year to the next, and a comparable fraction pulled up stakes and moved from one location to another. These changes in family composition were important for implementing the sample design (which included following geographic movers out of their initial clustered sample design) *and* for understanding income dynamics.

What was going on? Were the income changes merely the result of measurement errors, or were families' economic fortunes really more volatile than previously believed? If the turbulence was real, what caused it and to what extent was it voluntary or at least anticipated? And how

much of the turbulence reflected true mobility—permanent changes in economic and, perhaps, social position? The data patterns were in sharp contrast to the prevalent academic conceptions of social and economic position in the 1970s. These views included unchanging social class; the slow, steady building of stocks of economically valuable (human capital) skills; and fairly predictable life-cycle changes experienced by individuals as they age. In the life-cycle view, early adulthood was usually seen as a period of relatively low income as career and marital arrangements were being sorted out. Income was expected to grow as careers stabilized and, in some cases, blossomed and as multiple earners in households increased the household's total income. Retirement was seen as occasioning a drop in real income, cushioned by Social Security and private pension payments and by declines in work-related expenses.

Since that time there have been many conceptions of the need to deal with fluctuating income via the use of buffer stocks of liquid assets or lines of credit (Deaton 1992; Carroll 1994), but this was not a central element in empirical social science of the 1970s. Lenore Weitzman's (1985) sensational but overstated depiction of the dire economic consequences of divorce was still years in the future and had not yet been integrated into life-cycle theories. Elder's landmark studies of the Great Depression (1974) provided a vivid picture of the consequences of severe macroeconomic disruptions, but few thought that these kinds of disruptions were a regular feature of many families' lives in the prosperous second half of the twentieth century.

The prevailing life-cycle view of income evolution, however, conformed closely to (and, indeed, has been developed from) family income data drawn from representative cross sections of the population showing higher levels of household income for older individuals until their late forties and then lower levels at older ages. If we succumb to the temptation to use these cross-sectional data on different families at various life-cycle stages to represent the likely economic path of individuals as they age, we might view individual income trajectories as fairly smooth, with fluctuations occurring infrequently and at discrete points of the life cycle, such as early adulthood and retirement.

PSID as well as subsequent longitudinal household and administrative data reveal economic and social trajectories that are much more disparate and chaotic than those envisioned by early formulations of the life-cycle perspective. An idea of the scope of these fluctuations can be gleaned from table 6.1, which is taken from Duncan's (1988) PSID-based analysis of household income trajectories over the eleven-year period between 1969

TABLE 6.1. Level and Stability of Income, 1969-79, by age and sex

Age in 1969	Mean Income Level ^a	Percent with		Percent with Big (>50%) Drops in Income at Least Once		Of Those With Drops, Percent Expecting Income Loss		Percent Poor at Least Once	Percent Poor 6 or More Years
		Income Rising Rapidly	Income Falling Rapidly	in Income at Least Once	Drops, Percent	Income Loss			
25-54 yrs									
Men	\$43.1	35	6	18	9	13	2		
Women	40.0	32	10	24	6	20	5		
46-55 yrs									
Men	38.7	22	13	26	12	14	3		
Women	32.3	21	20	33	24	21	6		
56-65 yrs									
Men	29.5	7	38	38	34	17	4		
Women	22.1	6	35	39	25	27	9		

Note: Taken from Duncan 1988. "Rapid rise" in size-adjusted income is an increase greater than 5 percent per year. "Rapid fall" in size-adjusted income is a decrease greater than 5 percent per year. Over an eleven-year period, an annual real growth rate of 5 percent will increase a family's real income by over 70 percent; a negative 5 percent rate will nearly cut it in half.

^aMean income level, in thousands of 1985 dollars.

and 1979.⁴ Since the longitudinal experiences of men and women are quite different, data are presented separately by gender.

The first column shows the average level of family income over the eleven-year period and displays typical life-cycle patterns. Household incomes are highest for individuals who spent the entire period in their prime earning years; are somewhat lower for those who were initially forty-six to fifty-five years old, some of whom will have retired during the eleven-year period; and are lower still for the next older cohort, who were between the ages of fifty-six and sixty-five when the eleven-year period began. The gap between the family incomes of men and women increases substantially over the life cycle as a result of the increasing proportion of women who are not living with spouses or partners.

To what extent do these averages conceal diverse individual experiences? The second and third columns of table 6.1 show the fractions of the sample in various age and sex groups with either very rapid growth (more than 5 percent per year) or sharp declines (falling by at least 5 percent per year) in inflation-adjusted living standards over the period.⁵ Several startling facts emerge, the foremost of which is the prevalence of either large positive or large negative trajectories. With the exception of men aged forty-six to fifty-five, at least 40 percent of all groups displayed either large positive or large negative economic trajectories. Life-cycle average income figures do indeed obscure a great deal of offsetting change at the individual level.

Consistent with early life-cycle theory, the average direction of the trajectories varies predictably across the age groups. Rapid increases are concentrated in the early adult years, while most of the rapidly decreasing average trajectories are experienced by the cohort of retirement age. But there are many exceptions to these life-cycle age patterns. Duncan (1988) also estimated the incidence of adverse income "events," which he defined as instances in which size-adjusted family income fell by 50 percent or more in consecutive years. This yardstick is similar to that employed by Elder (1974) and his colleagues in their studies of the effects of the Great Depression, which found long-lasting effects of income drops of one-third or more.

The incidence of sharp drops in income-to-needs ratios over the life course is shown in the fourth column of table 6.1. The overall risk is high: between 18 and 39 percent of the various groups are estimated to have experienced such a drop at least once during the eleven-year period. Most of these decreases left the individuals involved with, at best, modest incomes. Not shown in table 6.1 is the fact that 87 percent of the individu-

als experiencing these decreases saw their family incomes fall to less than \$25,000. The PSID has questioned respondents about their expectations of future changes in economic status. This makes it possible to calculate what fraction of the 50-plus percent income drops were preceded in either of the previous two annual interviews by a report that the respondent expected his or her family economic status to decline. The fifth column of table 6.1 shows that both a majority of all income declines and the vast majority of preretirement income drops were unexpected.

Taken together, longitudinal PSID data show that it is a mistake to treat the path of average incomes as the typical income course of individuals as they age. Family incomes are quite volatile at nearly every point in the life cycle, making rapid growth or decline in living standards more the rule than the exception. We do not have to look with Elder and his colleagues to the Great Depression to find frequent instances of economic loss and hardship; the risk of sharp decreases in living standards is still significant at virtually every stage of life. Most of the losses are unexpected. These losses occur despite our system of government safeguards (e.g., unemployment insurance and Aid to Families with Dependent Children [AFDC]) and intrafamily transfers that might be expected to reduce or eliminate them.

So What?

Should these newly discovered economic fluctuations be a concern? Elder's (1974) data provide compelling but historical evidence of circumstances in which economic shocks can have devastating effects on both adults and children. In *Falling from Grace*, Katherine Newman (1988) draws data from the 1980s to document the psychological and other damage brought about by downsizing, divorce, and other events. Countless more specialized studies focus on the consequences of individual events such as layoffs, divorce, and widowhood (e.g., Yeung and Hofferth 1998). Perhaps contemporary economic dislocations are even more damaging than those in the 1930s, since there is much less of a sense that these events are shared by others.

On the other hand, some events producing economic losses may have benign or even beneficial effects. For example, when children leave parental homes, older parents decide not to move in with their adult children, despite the financial advantages they would otherwise enjoy, because they value their independence. Although their incomes are lower than before retirement, retired individuals may be better off because they

have more leisure time than when they were working and because the predictability of retirement has allowed them time to prepare for its financial and psychological consequences. Similarly, despite their unstable incomes, construction workers may be well off because their higher rates of pay compensate them for the instability of their jobs, and the self-employed may value "being their own bosses" over a stable salary. In short, not all instances of income instability have the same negative implications. Indeed, some have argued explicitly that income variability over the life cycle is of little analytic and policy interest (Murray 1986). Work with the PSID data collected on housing equity, other wealth, and financial flows has been used to assess the ability of families to smooth over periods of income decline.

Research on the consequences of economic fluctuations is difficult because few data sets combine reliable longitudinal information on family income with well-measured subsequent physiological or psychological outcomes. An interesting exception using PSID data related the level and stability of income to mortality. McDonough et al. (1997) treated PSID data as if they were a series of independent six-year panels, the first spanning the calendar years 1972–78, the second spanning 1973–79, and so forth, with the last one spanning the years 1983–89. Within each six-year period they used the first five years to measure the level and stability of household income and the sixth and final year to measure possible mortality.

Key results are presented in table 6.2. They are taken from a logistic regression in which the dependent variable is whether the individual died during the sixth and final year of the given period. Income level and stability over the preceding five-year period are combined into a single classification of families:

1. Low and unstable income (i.e., mean income under \$20,000) and at least one big income drop⁶ over the given five-year period;
2. Low and stable income;
3. Middle-class (mean income between \$20,000 and \$70,000) and unstable income;
4. Middle-class and stable income;
5. Affluent and unstable income; and
6. Affluent and stable income (the reference group).⁷

Consistent with a number of other studies, mortality risks fall as income level rises. Individuals with low incomes have three to four times

the mortality risk of the affluent individuals in the reference group (see chap. 9, this volume). New in the analysis is the result that *unstable* incomes also contribute to mortality risk, but only among the middle class. When compared with the reference group of the consistently affluent, middle-income individuals with stable incomes had a marginally significant 1.5 times elevation of mortality risk. In contrast, an individual with middle-class but unstable income had a risk ratio that was more than three times that of individuals in the reference group and was almost as high as individuals in the two low-income groups. Instability mattered at neither the low nor the high end of the income distribution, perhaps because the disadvantages of low incomes and the advantages of affluence overwhelm the possible effects of instability. An important item for future research is whether it is the income fluctuations per se or the events (e.g., unemployment or widowhood) producing them that increase the mortality risks.

Poverty and Welfare Dynamics

The book *Years of Poverty, Years of Plenty* (Duncan et al. 1984) was an attempt to summarize the most important lessons from the first ten years of the PSID. It included chapters on family economic and labor-market mobility, labor market differences between blacks and whites and

TABLE 6.2. Odd-Ratios of Mortality for Individuals Aged 45–64 Years, by Income Level and Stability, 1972–89

Five-Year Mean Income Level and Stability	Odds Ratio	95% Confidence Interval
Income <\$20,000 and 1+ income drops	3.7*	2.4–5.7
Income <\$20,000 and no income drops	3.4*	2.2–5.1
Income \$20–\$70,000 and 1+ drops	3.2*	1.9–5.5
Income \$20–\$70,000 and no drops	1.5*	1.0–2.0
Income >\$70,000 and 1+ drops	1.4	0.7–2.6
Income >\$70,000 and no drops	1.00 (reference group)	—

Note: Taken from McDonough et al. 1997, table 3. "Income drop" is defined as a situation in which size-adjusted family income fell by 50 percent or more in consecutive years.

*Coefficient is at least twice its standard error. Odds ratios are adjusted for age, sex, race, family size, and period.

between men and women, and poverty and welfare dynamics. It was to be an accessible summary of findings, and to a large extent it found its way into classrooms and policy discussions. The interest generated by the book focused overwhelmingly on its findings on the dynamic nature of poverty and welfare use. As with the more general life-cycle results, there was a huge gap between popular perceptions of these phenomena and the data's clear message of turbulence and mobility. When the PSID began, and continuing today, popular perceptions of the permanence of poverty and welfare receipt were widespread. We speak easily of "the poor" as if they were an ever-present and unchanging group. Indeed, the way we conceptualize the "poverty problem," the "underclass problem," or "the welfare problem" seems to presume the permanent existence of well-defined groups within American society. Much of our data on poverty is based on large annual Census Bureau surveys in which family annual cash incomes are compared with a set of "poverty thresholds" that vary with family size. In 1998, a three-person family with an income below \$12,802 would be designated as poor; the threshold for a four-person family is \$16,400. Although the poverty rates calculated each year by the Census Bureau generate a great deal of publicity, they rarely change by as much as a single percentage point from one year to the next. Longer-run trends show jumps during recessions and a disturbing secular increase in the poverty rate among families with children.

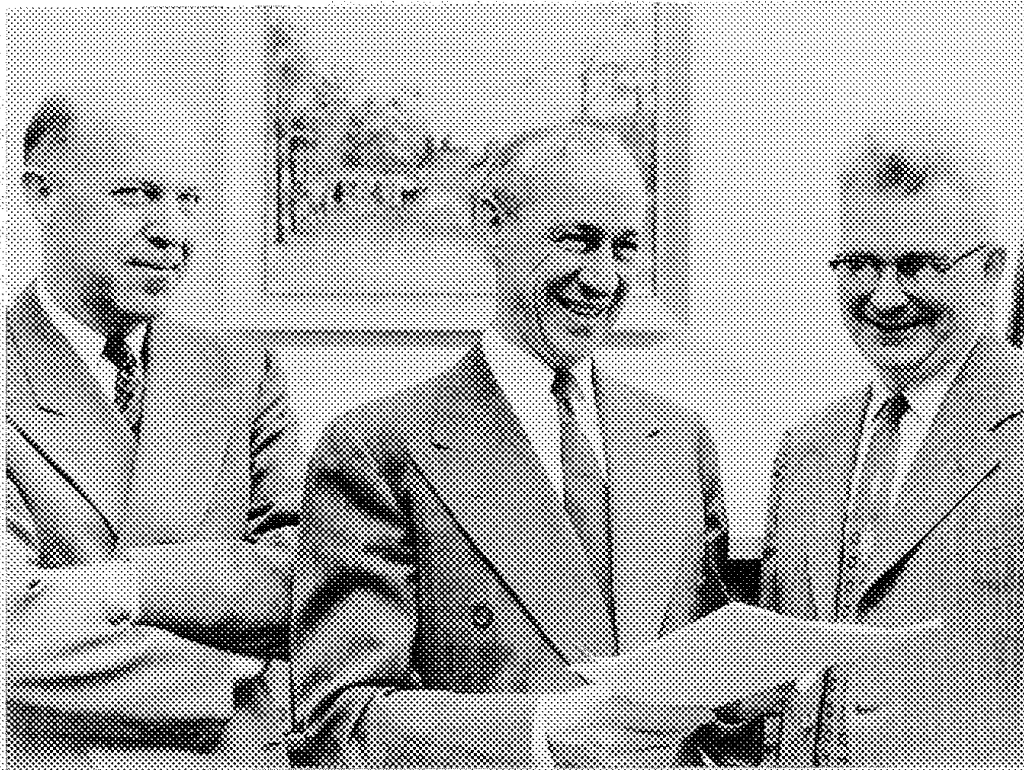
If, let us suppose, one in five children was poor in two consecutive Census Bureau survey "snapshots," and those poor children shared similar characteristics (e.g., half lived in mother-only families), what conclusion should be drawn? The observation would be consistent with an inference of absolutely no turnover in the poverty population and seems to fit the stereotype that poor families with children are likely to remain poor and that there is a hard-core population of poor families with little hope of self-improvement. However, the same evidence is equally consistent with 100 percent turnover—or any other percentage one might pick—assuming only that equal numbers of people with similar characteristics cross into and out of poverty.

In fact, a hallmark finding of the PSID is that a great deal of turnover exists among both the poor and welfare recipients (Duncan et al. 1984). Only a little over one-half of the individuals living in poverty in one year are found to be poor in the next, and considerably less than one-half of those who experience poverty remain persistently poor over many years. Similarly, many families receive income from welfare sources at least occasionally, but relatively very few do so year after year. Many descrip-

tions of poverty experiences are possible with the PSID; perhaps the simplest is a count of the number of years in which an individual lived in a family with total annual income that fell short of the poverty threshold in that year. In the case of the eleven-year period used for table 6.1, if poverty were a persistent condition, then the sample would cluster at one of two points—no poverty at all or poverty in all of the eleven years. If much contact with poverty is occasional, then we would expect that the persistently poor would be a small subset of the larger group that had at least some experience with poverty.

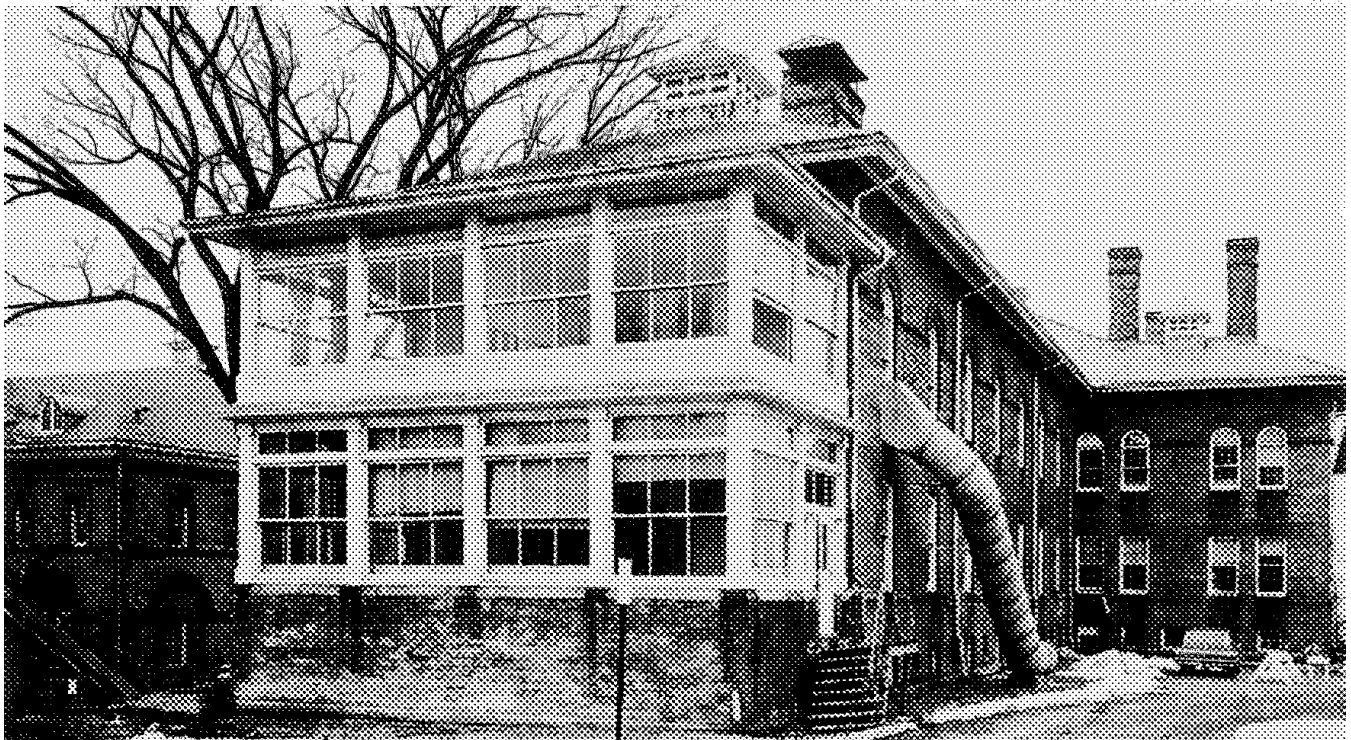
The last two columns of table 6.1 show what fractions of individuals in the various age-sex groups spent at least one of the eleven years below the poverty line and which spent more than half of the time (at least six of eleven years) in poverty. The difference in the sizes of these two groups at all stages of the life cycle is striking. Depending on the life-cycle stage, between 20 and 27 percent of adult women experienced poverty at least once during the eleven-year period. The risk of at least occasional poverty was considerably lower for adult men than for women. Persistent poverty, defined as living in poverty for more than half of the eleven-year period, characterized fewer than one-tenth for any of the subgroups and is usually less than 5 percent. An older woman's chance of experiencing persistent poverty is roughly twice that of a woman between the ages of twenty-five and forty-four and is nearly five times as high as that of a man between the ages of twenty-five and forty-four. Poverty rates for children, especially minority children, are much higher, with nearly one-quarter of black children living in persistent poverty (U.S. Department of Health and Human Services 1997).

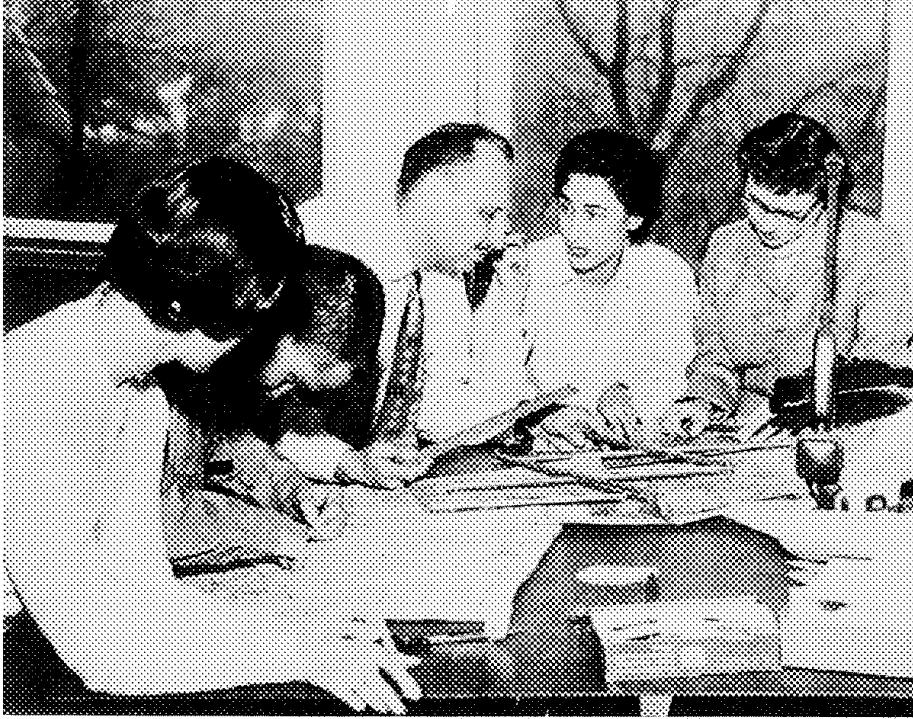
Adopting "event history" methods such as the life table and the Cox regression (Tuma and Groeneveld 1979), Mary Jo Bane and David Ellwood (1986, 1994) furthered the transformation in how social scientists and policy analysts viewed poverty and welfare dynamics. These methods enabled them to characterize the nature and determinants of poverty and welfare experiences by the duration of "spells" (i.e., the length in time of continuous periods of poverty or receipt). Essential data from the Bane and Ellwood analyses are presented in table 6.3. In the case of poverty, they use the PSID to estimate what fraction of families who first begin a poverty experience do so for the short run (one to two years), medium run (three to seven years), or longer run (eight or more years). They find that, while a clear majority of poverty spells are short, a substantial subset of poor families have longer-run experiences. Heterogeneity of experiences is thus key.



The original Institute and Center Directors of the Institute for Social Research (from its inception through the late 1960s): Institute Director Rensis Likert (*center*); Angus Campbell (*left*), Director of the Survey Research Center; and Dorwin Cartwright (*right*), Director of the Research Center for Group Dynamics. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A6.)

The Institute for Social Research building in the 1950s—a former hospital building, complete with enclosed patient fire escape slide. (Photograph by Dale Fisher of Dale Fisher Associates.)





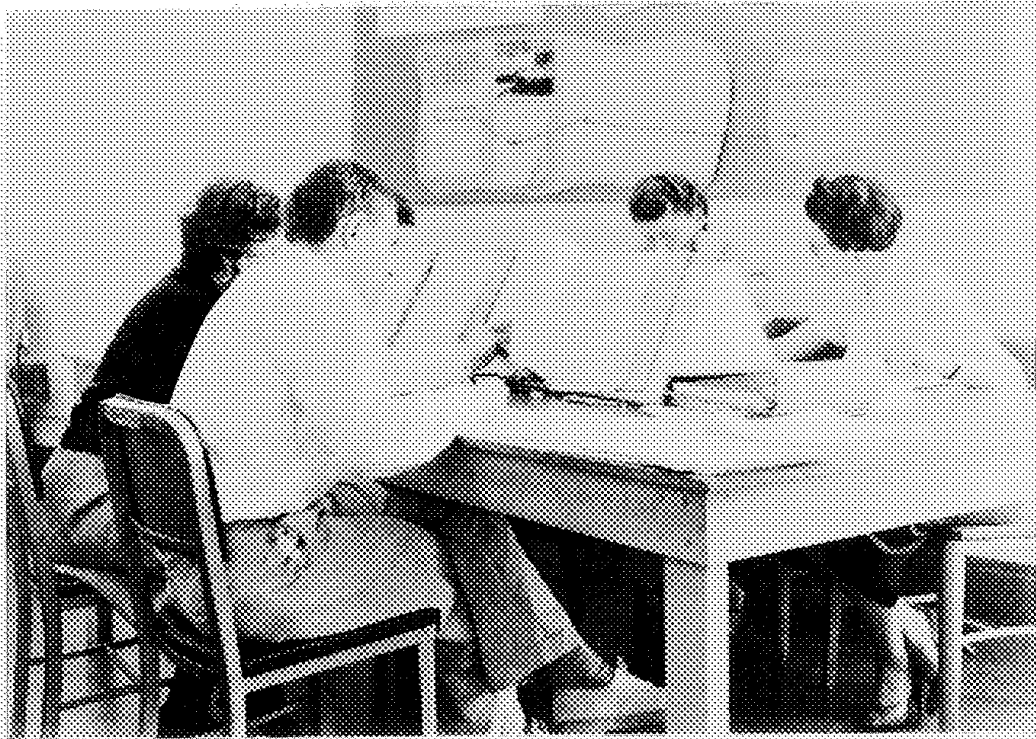
Leslie Kish (*center*), Irene Hess (*right*), and staff in the SRC Sampling Section (*left to right*: Doris Royster, David Sanchez, and Gilly Aga-Oglu Ludden) work on one of SRC's early area probability samples. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A10.)



Michigan Survey Research Center interviewer taking an interview with a respondent in the 1950s. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A10.)



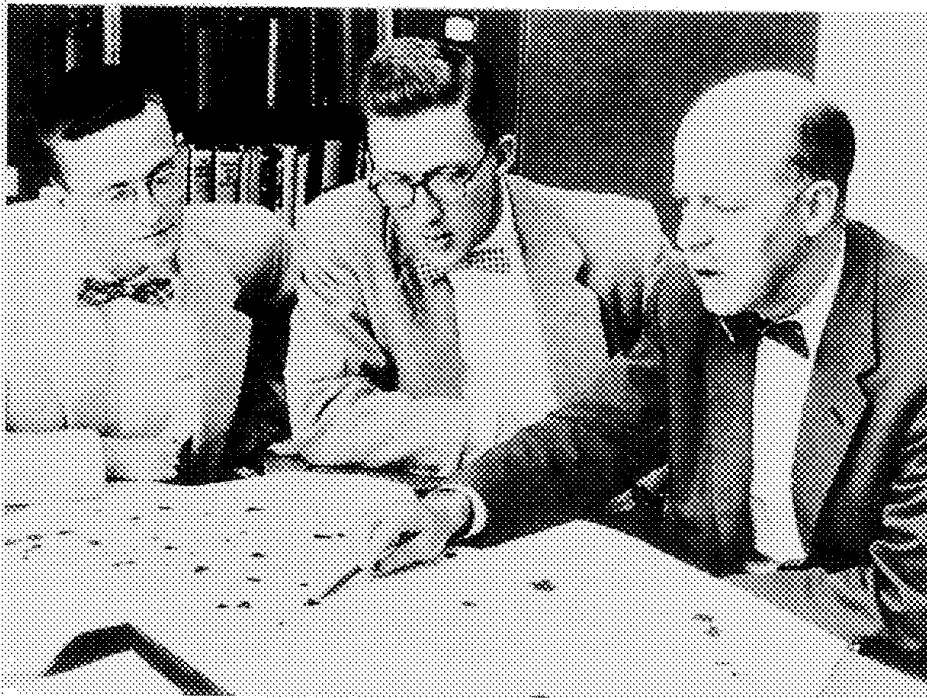
At the end of the twentieth century, almost all face-to-face as well as telephone interviewing at the Michigan Survey Research Center was done using computer-assisted-interviewing software operating on laptops carried by field interviewers, with interviews transmitted electronically to Ann Arbor. Interviewers in this study also took electronic blood pressure and direct height and weight measures on respondents in their homes, and blood and saliva samples were collected by medical technicians for a subset of willing respondents. (Photograph courtesy of Ratib Al-Ali.)



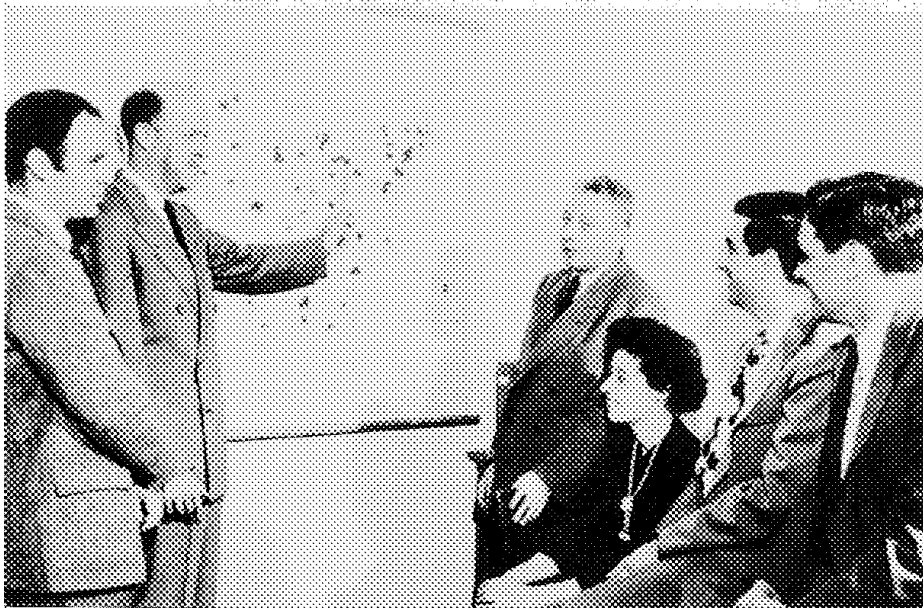
Paper and pencil coding of interviews in the Michigan Survey Research Center in the early postwar period. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A6.)

Computer-assisted coding and telephone interviewing being carried out in Michigan Survey Research Center's Survey Support Laboratory in the late 1990s. (Photograph by Philip Dattilo.)

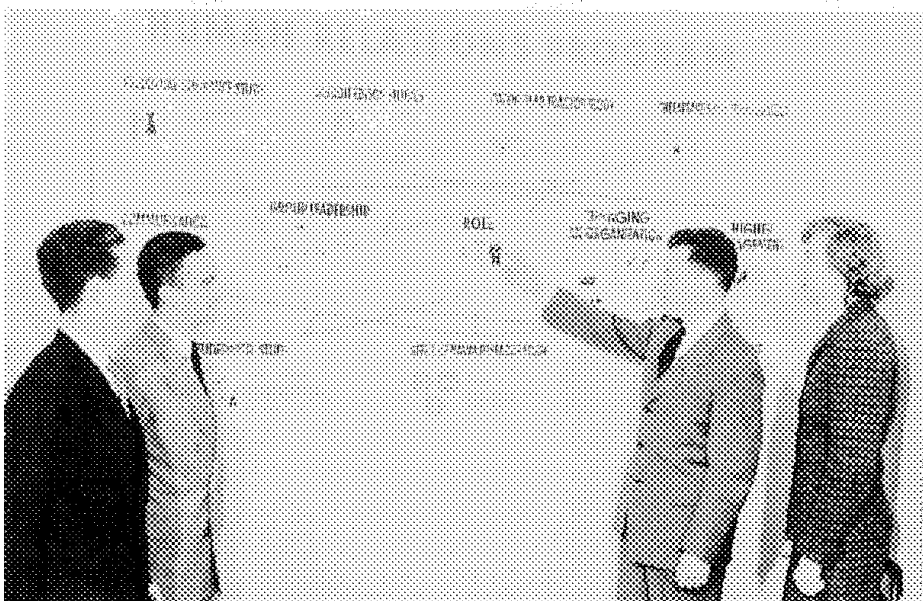




Angus Campbell (*right*), Warren Miller, and Philip Converse (*left*) plan the sampling for the first of the National Election Studies by the Michigan Survey Research Center in the 1950s. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A10, SRC-16.)



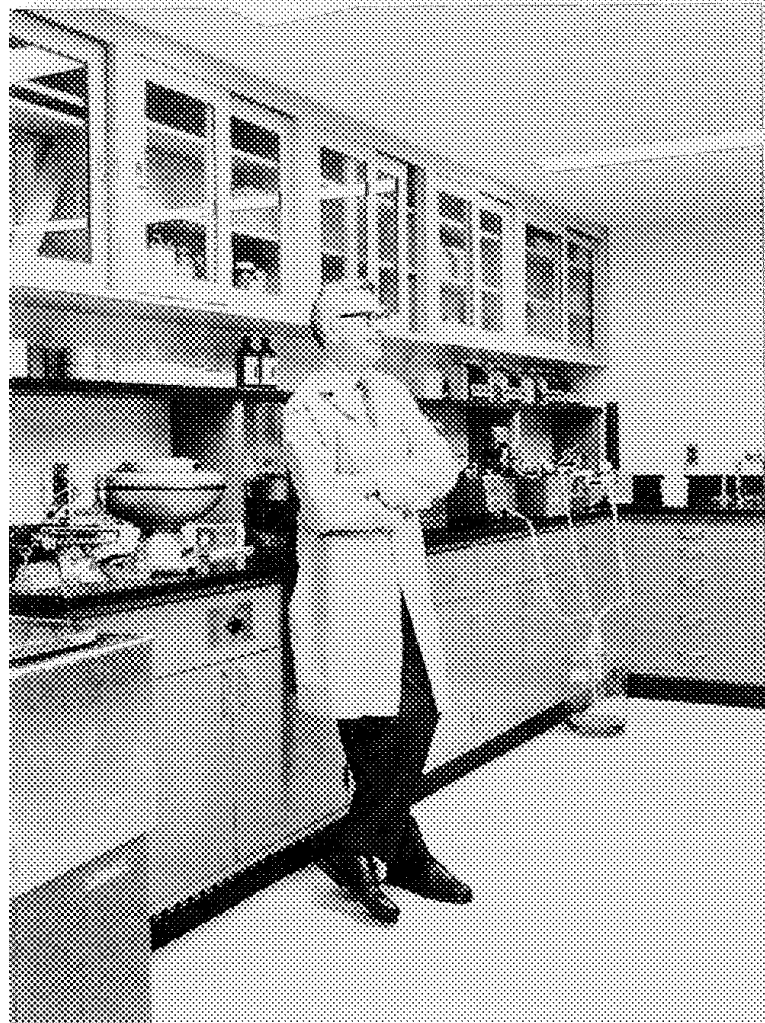
Planning of the sampling and survey design for the Surveys of Consumer Finance and Consumer Attitudes in the 1950s (*left to right*): later Nobel Prize winner Lawrence Klein, Angus Campbell, George Katona, Eva Mueller, James Morgan, and John Lansing. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box A10.)



Discussing the conceptual foci and ongoing studies of the Human Relations Program (later Organizational Behavior Program) of the Michigan Survey Research Center in the 1950s (*left to right*): Eugene Jacobson, Robert Kahn, Gerald Mahoney, and Nancy Morse. (Photograph from the Institute for Social Research photo archives.)



Stanislav Kasl (*left*) and Sidney Cobb plan research in the 1960s on the social environment and health (mental and physical). (Photograph from the Institute for Social Research photo archives.)

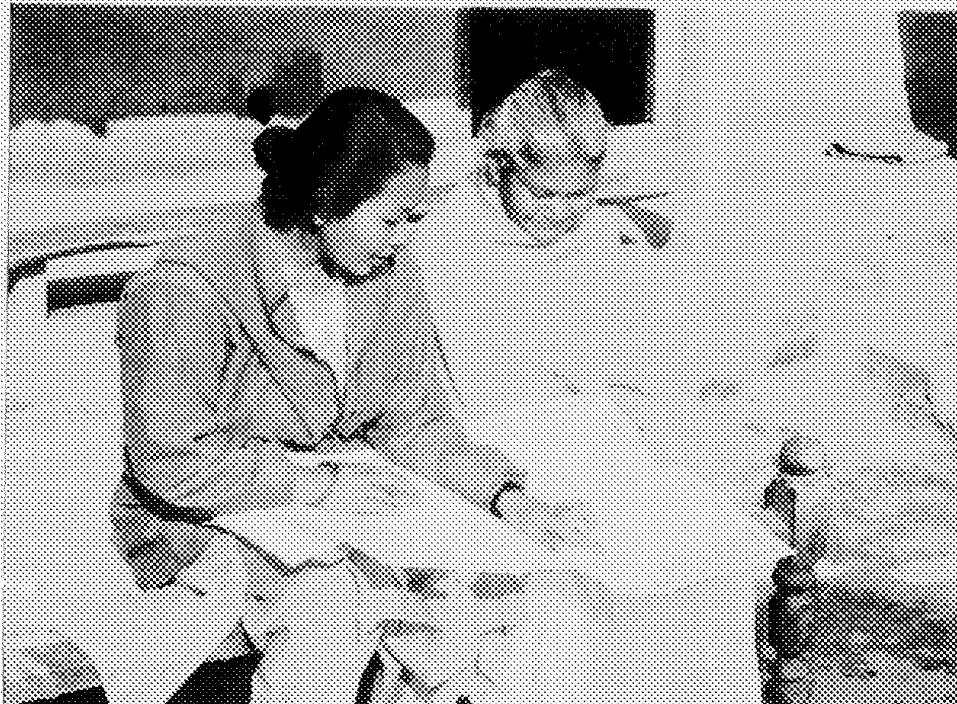


George Brooks in the biochemical laboratory established in the Social Environment and Health Program in the 1960s. (Photograph from the Institute for Social Research photo archives.)



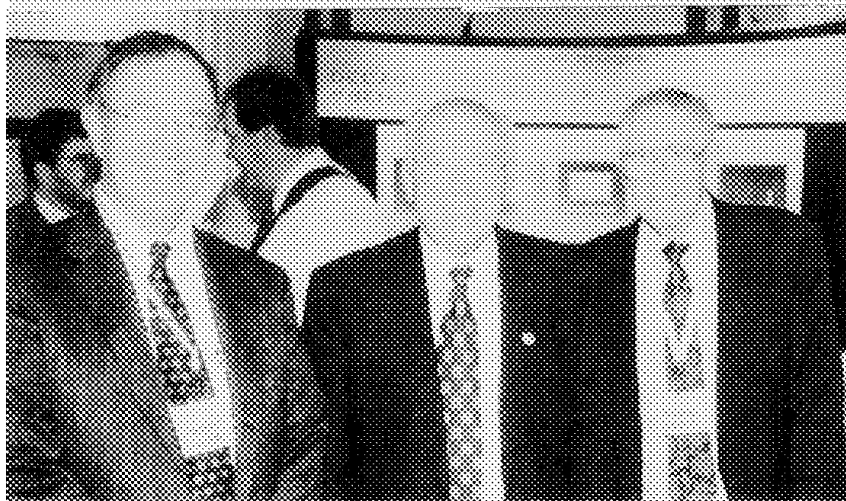
Stephen Withey and Elizabeth Douvan observe a pilot interview on one of the early studies of youth population, adolescent and later life course development at the Michigan Survey Research Center and Institute for Social Research. (Photograph courtesy of the Bentley Historical Library, University of Michigan, University of Michigan News and Information Services, Box B1, Item 24.)

Reflecting the still growing internationalization of demographic research in the Survey Research Center and Institute for Social Research, an interviewer working for Michigan's Population and Ecology Research Laboratory in Nepal conducts an interview with a Nepalese woman using the Life History Calendar developed for the Intergenerational Panel Study of Parents and Children in the Detroit area. (Photograph courtesy of Dr. Lisa Pearce.)





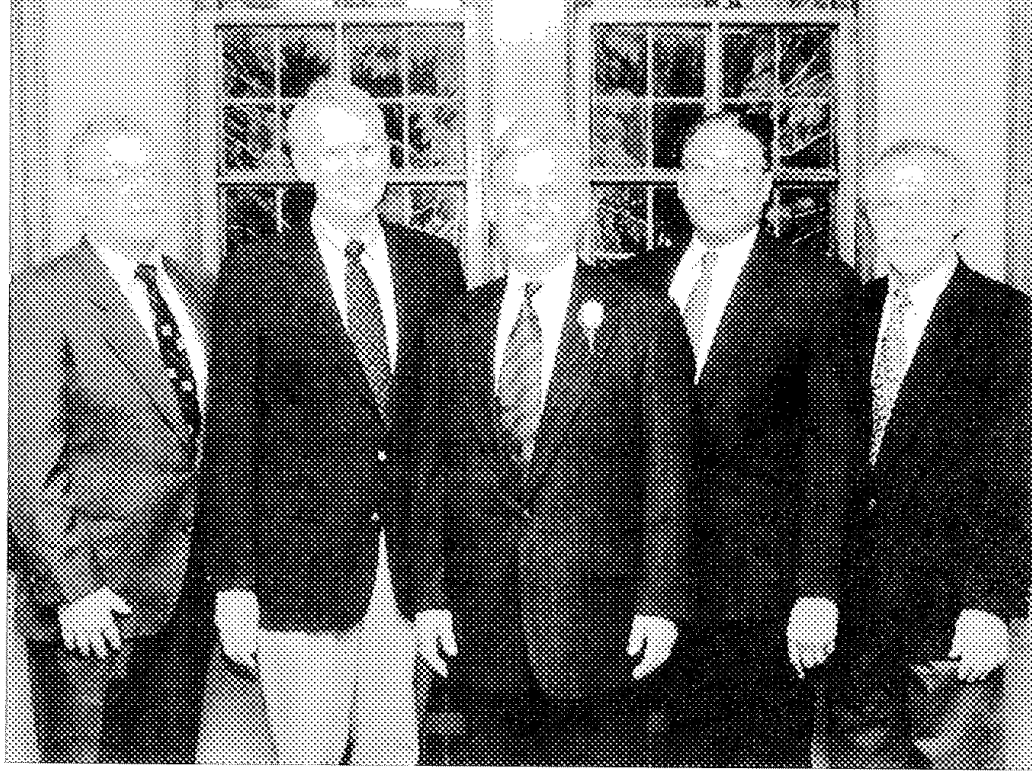
The staff in 2000 of the Monitoring the Future Study of substance use and abuse and adolescent and early adult development (*left to right*): Lloyd Johnston, John Schulenberg, John Wallace, Jerald Bachman, and Patrick O'Malley. (Photograph by Martin Vloet, University of Michigan Photo Services.)



Robert Willis (*left*), current director of the Health and Retirement Study, and F. Thomas Juster (*right*), its founding director, discuss the study with U.S. Representative Vernon Ehlers, congressman from Grand Rapids and leading architect of federal policies supporting scientific research and education, as part of the activities inaugurating the first decade of the twenty-first century as the Decade of Behavior in federal support of the biomedical and social sciences. (Photograph courtesy of Charles Votaw.)



James Jackson (*second from right*), Director of the National Program of Research on Black Americans, discusses plans for the Survey Research Center's "How America Responds" survey of the American population after September 11, 2001, with Robert Kahn (*center*) and program trainees (*left to right*: Alfred DeFreece, L'Heureux Lewis, and Debbie Coral). (Photograph by Don Goings, courtesy of the Institute for Social Research.)



The Institute and Center Directors of the Institute for Social Research during the celebration of ISR's fiftieth anniversary in 1998 (left to right): William Zimmerman, Director of the Center for Political Studies; James House, Director of the Survey Research Center; David Featherman, Director of the Institute for Social Research; James Jackson, Director of the Research Center for Group Dynamics; and David Lam, Director of the Population Studies Center. (Photograph courtesy of the University of Michigan Photo Services.)

The Institute for Social Research building from 1994 to the present, built for ISR in three stages between the mid-1960s and the early 1990s. (Photograph by Philip Dattilo.)



Striving to discover *the* correct characterization of poverty—transitory or persistent—is fruitless, since poverty experiences are always a mixture of transitory episodes and long-term spells. The implications of these data analyses are profound, since the heterogeneous nature of poverty experiences implies that a one-size-fits-all policy approach may be ineffective. The needs arising from short duration spells call for social-insurance approaches in which fears of dependence need not be a concern. Some have argued that such policies need to be designed in ways to encourage financial reserves as a partial substitute for income support (Hubbard, Skinner, and Zeldes 1995). Long-term poverty spells are a different matter and call for policies that address the causes of the longer-run problems of the poor.

In the data presented in the second column of table 6.3, Bane and Ellwood (1994) calculate the likely total number of years of receipt for families just starting to receive AFDC.⁸ They find a roughly even distribution of first-time welfare recipients across the three time intervals; roughly one-third have very short welfare experiences, one-third have medium-length experiences, and the final one-third have long-term receipt. With welfare, as with poverty, heterogeneity is a key feature. Prior to the reforms of 1996, AFDC operated simultaneously as a short-term insurance and long-run support program. As shown in table 6.3, many families using AFDC did so for only a few years, received help from it, got back on their feet, and never returned. However, a substantial fraction of recipients was indeed long-term, raising all of the rhetoric that seems to surround contemporary discussions of welfare.

These different patterns figured prominently in the debate over welfare reform. Ellwood (1988) proposed time limits as a means of addressing some of the problems associated with long-run receipt, although in the context of

TABLE 6.3. Distribution of Lengths of Spells of Poverty and AFDC, for Individuals First Beginning Spells of Poverty and AFDC

	Poverty, for Nonelderly Persons Beginning a Poverty Spell, in percentages	AFDC for Women Beginning an AFDC Spell, in percentages
1–2 years	60	36
3–7 years	26	35
8+ years	14	29
Total	100	100

Source: Poverty data taken from Bane and Ellwood 1986, table 2; AFDC data taken from Bane and Ellwood 1994, table 2.3.

a comprehensive package of supports designed to ensure that families who wanted work could get it and that the incomes of working families remain above the poverty line. In fact, welfare reform is now being implemented in fifty different ways across the states, with some incarnations resembling Ellwood's recommended policies but others quite different.

Road Trip



News and use of data from the PSID soon spread to several European countries and generated interest in launching similar studies. The most ambitious and widely used such studies are the German Socio-Economic Panel and the Swedish Household Panel (Huhallens ekonomiska levnadsförhållan, or HUS), both of which collected first-wave data in 1984, and the British Household Panel Survey, which collected its first wave in 1990. Luxembourg, the Netherlands and the Lorraine region of France ran panels in the 1980s; quite comparable household panels in all European Community (EC) countries began in the early 1990s.

Many of these studies were shaped with input from researchers with PSID experience. One surprising result from comparative longitudinal analyses of income data is that the United States is far from alone in its high degree of economic mobility, particularly among the poor. This issue has important implications for the poverty debate in the United States. The Luxembourg Income Study project has documented the much higher rates of poverty that prevail in the United States than in other Western industrialized countries. Conservatives have argued that these uniquely high rates of U.S. poverty are the price we pay for our economic dynamism. Poverty is certainly less a worry if the economy will ensure that prosperity is a year or two away. To what extent are the lower poverty rates of European countries associated with lower amounts of economic mobility? Based on a project that examined poverty dynamics in nine countries, the results of this question are listed in the first column of table 6.4 (Duncan et al. 1995).

Data from Canada, Finland, and Sweden came from administrative records; all other results were from household panel surveys. Considerable effort was expended to ensure that all studies were based on representative and comparable samples and defined income levels and changes in comparable ways. To establish a comparable poverty line across countries, we used a relative threshold—50 percent of the median income of all households in the country.

Evolution and Change in Family Income, Wealth, and Health

The first column in table 6.4 presents a cross-sectional snapshot of poverty rates across the countries. Consistent with data from the cross-sectional Luxembourg Income Study, the poverty rate is found to be much higher in the United States, particularly among blacks, than in European countries, with the Canadians somewhere in between.

Poverty dynamics can be gauged by the fraction of poor families (defined as having incomes below 50 percent of the median in year t) that, in year $t + 1$, have income above 60 percent of the median.⁹ If one calculates the poverty escape rates based on the entire poor population within each country (data not shown in table 6.4), then the U.S. poor rank near the bottom. However, this is due largely to the fact that the U.S. poor are, on average, much further away from the poverty line than are the poor in other countries. If we take only those families with year t incomes close to the poverty line (i.e., with incomes between 40 and 50 percent of the median), then the poverty escape rates are remarkably similar across the countries (second column of table 6.4). A more direct calculation of the degree of income instability among low-income families (third column of table 6.4) shows, if anything, less instability in the United States.¹⁰

Thus, the surprising result from this comparative study is that patterns of economic turbulence in other industrialized countries are similar to those in the United States. The extent of genuine economic mobility in

TABLE 6.4. Poverty Rates, Poverty Transitions, and Income Changes of Low-Income Families in Mid-1980s

Country	Percent of Families with Incomes below 50% of Median	Percent of "Near Poor" Climbing Out of Poverty	Typical Percent Income Change for Families in Bottom Decile
Canada	17	23	21
Finland	3	47	28
France-Lorraine	4	32	10
Germany (West)	8	24	18
Ireland	11	22	22
Luxembourg	4	29	10
Netherlands	3	23	8
Sweden	3	45	9
United States	20	22	15
German foreign residents	18	23	12
U.S. blacks	49	15	8

Note: Taken from Duncan et al. 1995, table 11.2. "Poverty" is defined by income less than 50% of median income in given country. "Near poor" are families with incomes 40–50% of median in base year. "Climbing out" is defined as year 1 to year 2 income change from <50% of the median to >60% of the median.

these data is another matter. Most of the families climbing out of poverty do not end up in the middle class, and more than a few return to below-poverty-level incomes from time to time. A companion analysis of welfare dynamics (Duncan et al. 1995) found, if anything, that the U.S. recipients had shorter-term experiences than did recipients in most other countries.

Poverty and Child Development



The fascinating PSID data on family income and poverty dynamics have also begun to be studied. Can we gain understanding of the patterns of change in family economic well-being? Since family structure itself had changed so much and figured so prominently in the income changes, a number of studies were done on the economic determinants and consequences of events such as divorce, widowhood, and out-of-wedlock child-bearing. Economists such as Gary Becker had developed interesting models of these kinds of behavior, but so too had sociologists and psychologists. By the mid-1980s, attention turned to the “so what?” questions. PSID analysts were able to provide a detailed description of the dynamic patterns of poverty, family structure, and social conditions. Yet, collectively, little was known of the effects of these changes and events on the psychological and physical health of adults and on the life chances of individuals who experienced these events while growing up.

Addressing the “so what?” questions with the across-generation motion picture of economic, demographic, and social conditions and events had become possible by the late 1980s. Early efforts to link economic and other events in the sample produced a mixed record of success, perhaps because older adults’ formative years predated the first PSID waves. Much more promising has been research on child and adolescent development, which has been able to draw upon more complete information, much of it dating from birth and extending to the early adult point at which developmental and labor market outcomes can begin to be assessed.

No single discipline monopolizes theoretical and methodological insights in this field of research, but there has been remarkably little collaboration of the relevant social science disciplines. Consequently, developmental studies designed by psychologists and sociologists attend to neither the economic dimension of family life nor economic aspects of the policy implications of the research. Moreover, economist-driven studies give short shrift to the idea of critical periods and to the careful measurement of outcome and process favored by psychologists and sociologists.

Many studies, books, and reports have demonstrated correlations between children's poverty and various measures of child achievement, health, and behavior (e.g., Duncan and Brooks-Gunn 1997; Brooks-Gunn and Duncan 1997; Children's Defense Fund 1994; Mayer 1997). As summarized in Brooks-Gunn and Duncan (1997, table 1), the strength and consistency of these associations are striking. Relative to nonpoor children, poor children are twice as likely to repeat a grade and to become a high school dropout. The ratio is 1.4 for learning disability; 1.3 for parent-reported emotional or behavior problems; 3.1 for a teenage out-of-wedlock birth; 6.8 for reported cases of child abuse and neglect; and 2.2 for experiencing violent crime.

But literature on the causal effects of poverty on children has major shortcomings, the most important of which is that family income is not reported in many data sources that contain crucial information about child outcomes. As a result, studies using these kinds of data have often used variables such as occupation, single parenthood, or low maternal education to infer family income levels. But income is far from synonymous with these other variables. As we have seen, family incomes are surprisingly volatile, which means that there are only modest correlations between economic deprivation and typical measures of socioeconomic background.

What is the best way to combine the insights from economics and developmental psychology to understand the effects of poverty on children? Psychology emphasizes the importance of conditions surrounding developmental stages and transitions. The greater malleability of children's development and the overwhelming importance of the family (as opposed to school or peer contexts) lead to expectations that economic conditions in early childhood may be far more important for shaping children's ability and achievement than are conditions later in childhood.

The possibility that the effects of economic conditions on children's development depend upon the childhood stage is foreign to most economists, whose developmental models are very simplistic and tend to focus on the role of "permanent" income. It is often assumed that families anticipate bumps in their life-cycle paths and can therefore save or borrow to smooth their consumption across these bumps. But while some economists recognize the potential importance of credit and other constraints faced by poor families, none had attempted to gauge the implications of the bumps in the context of children's development. The long-run scope and careful measurement of PSID income enabled Duncan et al. (1998) to investigate the importance of childhood stage-specific poverty for com-

pleted schooling. Their sample consisted of 1,323 children born between 1967 and 1973, who were observed in PSID families for the entire period between birth and age twenty to twenty-five and who constituted a representative sample of children in these birth cohorts. To allow for the differential impact of income by childhood stage, they related years of children's completed schooling to measures of family income averaged over the first, second, and third five-year segments of the children's lives (see table 6.5).¹¹

Taken as a whole, the results show that the timing of economic deprivation matters a great deal for the schooling outcomes, with income early in life by far the most important. The coefficients reported in table 6.5 suggest, for example, that, controlling for income in other life stages and other family conditions, children in families with incomes between \$15,000 and \$25,000 during the birth to age five period average two-thirds of a year more schooling. This is about one-third of a standard deviation more when compared to children in families with income averaging under

TABLE 6.5. Effects of Stage-Specific Parental Income on Completed Schooling and High School Graduation Rates

Income Averaged Over:	Additional Years of Completed Schooling
Age 0-5	
Below \$15,000	.00 (reference group)
\$15,000-24,999	.66*
\$25,000-34,999	.73*
\$35,000-49,999	.78*
\$50,000 and above	1.41*
Age 6-10	
Below \$15,000	.00 (reference group)
\$15,000-24,999	.16
\$25,000-34,999	.24
\$35,000-49,999	.44
\$50,000 and above	.33
Age 11-15	
Below \$15,000	.00 (reference group)
\$15,000-24,999	.34
\$25,000-34,999	.41
\$35,000-49,999	.36
\$50,000 and above	1.08*

Note: Based on Duncan et al. 1998, table 3.

*Coefficient is at least twice its standard error. All regressions include controls for mother's schooling, family structure, race, gender, age of mother at the birth of the child, total number of siblings, whether ever lived in South, number of geographic moves, and number of years mother worked for 1,000+ hours. Parental income is inflated to 1993 price levels.

\$15,000. In contrast, income from middle childhood and adolescence failed to predict strongly to the schooling outcomes.¹² In short, economic deprivation occurring early in childhood appears to have the most pronounced and longest-lasting effects on children's achievement. The lens of early childhood as the critical period with respect to economic deprivation has some important policy implications (Duncan and Brooks-Gunn 1997). For example, the five-year time limits in the 1996 welfare reform legislation are not as worrisome as sanctions, since few families hitting five-year limits will contain young children living with them, but many families sanctioned off Temporary Assistance for Needy Families (TANF) programs or who have to work at inflexible jobs without paid leave can have young children placed in a very stressful environment with potential for long-term costs for their schooling and achievement (Hofferth et al. 2000; Hofferth 2002).

Children in PSID families, 1997 and Beyond

In recent years, the PSID has been used to examine the consequences of events and circumstances during the years that children are living with their parents for children's educational and economic successes as young adults (Brooks-Gunn et al. 1993; Duncan, Brooks-Gunn, and Klebanov 1994; Duncan et al. 1998; Haveman and Wolfe 1994; McLanahan and Sandefur 1994). Until 1997, such measures were collected annually from interviews with one adult respondent. For all individuals in the sample under age thirty, these measures are available from birth. Once children become teenagers, information about their marital status, fertility, behavior, and labor force activities is obtained, and, once they form their own household, the outcomes of early events, such as completed schooling, are available. However, the only information on children as children had been limited to age, sex, and race. Therefore, we did not know the mechanisms by which early family, school, and neighborhood experiences facilitate or detract from leading a healthy, productive adult life. In 1995, funding from ASPE at the Department of Health and Human Services permitted the PSID to include a set of questions asked of adults about their own and their young children's school successes and failures. While this was an important first step, the supplement was limited. It contained no direct assessments of children's development and experiences. The Child Development Supplement to the PSID (PSID-CDS) rectified that situation.

With funding from the NICHD, the PSID-CDS collected information in

1997 on up to two randomly selected children between the ages of birth and twelve of PSID respondents both from the primary caregivers and from the children themselves (Hofferth et al. 1999).

Child Outcome Measures

For the most part the study on child outcome measures used existing measures to assess children, age three and older, and their families. Children's well-being was defined in terms of cognitive/academic, socioemotional, and physical development. Outcome measures included (1) school progress, including academic achievement and cognitive ability, grade failure/progression, highest grade completed, verbal and math ability and literacy; (2) socioemotional well-being; and (3) health. Another set of items measured child health and functioning around the time of birth and at the time of the survey.

Child and Family Process Measures

Following these child assessment measures, the primary caregiver answered a set of interviewer-administered questions about each child, for up to two children. These questions were designed to obtain more information about the family and to assess parental functioning and parent-child and parent-parent relations. Measures included a self-esteem scale, a self-efficacy scale, a depression scale, and assessments of economic strain, social support, household tasks, food security, schooling and school progress, and parental engagement in school.

One unique aspect of this study was the collection of information from a second caregiver. While assessment of father involvement in the lives of their children is a key goal, we define the second caregiver quite broadly, since in many low-income households the second caregiver is a grandmother. In addition, father involvement was obtained in 1997, whether or not the father lived with the child.

Parental, School, Community, and Governmental Resources

Through 1997, the PSID core survey collected annual information on the number of parents, number and ages of children, presence of other adults, income, employment, earnings, hours of work, and education of all family members. Measures of parental financial resources are excellent, and all

major components of wealth as well as income are assessed. In 1997 a child support supplement was funded for the first time and was included in the core to provide information on fathers' financial contributions to children. However, information about expenditures on children in the core is limited, as are questions about the quantity and quality of time spent with children. The PSID-CDS obtained information about parental expenditures on child care and school and about children's participation in nonparental child care and early childhood programs from birth until school entry and at the time of the survey.

Another unique aspect of the 1997 PSID-CDS was the collection of a time diary of children's activities. Previous national data on children's time use were collected in 1981 by the University of Michigan on a small sample of several hundred middle-class families. Many studies continued to utilize these numbers in the 1990s even though they were outdated (Task Force on Youth Development and Community Programs 1992). Parental time with children is one area in which data reported in stylized (nondiary) form are considered unreliable because of a strong social desirability bias. A study using U.S. data from the 1920s to the 1980s reported that parental time caring for children rose rather than declined over the period, in spite of increased maternal employment (Bryant and Zick 1996). Until 1997 no data were available to document changes since 1981.

Because resources from schools and preschool programs are important to children's lives, the PSID-CDS collected information from the teacher and administrator of the child's school or child care center or program, the family day-care home, or the other day-care provider. The teacher or caregiver provided information on the child, on activities in the classroom, and on his or her own characteristics. The administrator provided information on the characteristics and composition of the school and its student body. The teacher instrument for elementary school included a diary of child and teacher activities during the school day, teaching style, the resources available in the classroom, and the characteristics of students and teacher. Teachers provided information on child behavior using the same measures used by parents.

Finally, the PSID-CDS includes a rich set of measures of the economic, social, and policy characteristics of the community in which the child lives. Questions asked directly of parents include the extent to which parents know their neighbors, participate in community activities, and view their neighborhood as "safe."

What Have We Learned So Far?

In 1981 only about one-half of all PSID-CDS children lived in families with an employed mother, compared with two-thirds in 1997. One-quarter of all the children lived in traditional two-parent families in which the father worked and the mother was a homemaker. In contrast, 42 percent lived in families in which both parents worked. Four percent lived in two-parent families in which the father did not work. A second change between 1981 and 1997 was the increased proportion living with only one parent. Twenty-eight percent lived with a single parent in 1997, compared with only 20 percent in 1981. Parents were better educated in 1997. Twenty-four percent had completed some college, compared with 16 percent in 1981. They also were more likely to have one or two instead of three children in 1997. The median family income for families with children under the age of thirteen was almost \$40,000 (Hofferth 1998).

As a result of such demographic changes since the early 1980s, we find that children's activities have changed. Their amount of free time has dropped slightly, leading to reduced time playing, watching television, eating, and just "hanging out" (Hofferth and Sandberg 2001b). Instead, children spend more time in structured activities such as school, day care, sports, and art activities. Mothers have less time for preparing food and clothing at home, so children spend more time accompanying their parents shopping and less time helping with traditional household tasks. Other changes appear to be linked to education-related changes in attitudes and values regarding appropriate activities for children, such as the increase in sports participation, art activities (including music lessons), reading, and personal care and the decline in church-related activities.

Even with these changes, children's lives in 1997 differed only in degree from those of children in 1981. In 1997, children spent 74 hours a week sleeping, 25 hours in school and day care, 9 hours eating, and 9 hours in personal care (Hofferth and Sandberg 2001a). That left about 51 hours of discretionary time. Children spent about one-quarter of that time watching television and another one-quarter playing. Children spent very little time reading for pleasure (1.2 hours per week) or studying (2 hours). In their remaining free time children participated in sports, visited, did household chores, and just "hung out."

Do these changes in children's time matter for children's achievement and adjustment? Family characteristics are most important to children's development. Living with parents who have more schooling, living with

two parents, having a mother with higher test scores, having parents who expect their child to complete college, and being from a smaller family are associated with children having higher levels of achievement (Hofferth 1998). Even after adjusting for family differences, however, children's activities are associated with achievement and adjustment. Participation in sports and reading is associated with children's achievement, particularly in problem solving and on verbal tests; spending more time eating, sleeping, and participating in sports is also associated with reduced behavior problems. Active leisure is more valuable for achievement than passive leisure, such as watching television and just hanging out, and participation in family and social activities is associated with better social adjustment.

One of the big questions is whether mothers, when they engage in paid work, lower their investment in children, who may suffer consequent disadvantage in cognitive achievement and adjustment. Research using 1997 PSID-CDS diary estimates of maternal time spent with children found only small differences (2.4 hours per week) between the time children spent engaged in activities with mothers in two-parent dual-earner households and two-parent single-earner households (Hofferth 2001), though there was a larger difference (5.2 hours) in the time employed and non-employed mothers were available to children. The largest difference in engagement lay between two-parent families and single-parent families, a difference of 9 hours per week for dual-earner two-parent versus employed single-mother families and a difference of 6 hours per week for two-parent versus one-parent nonemployed-mother families.

A major question is whether time with parents has increased or decreased over the past several decades, as women have moved into the work force and as single parents have raised increasing numbers of children. Though there have been major demographic changes in the U.S. population, analyses indicate that changes in population structure between 1981 and 1997 would have decreased children's time with mothers and fathers if the changes had not been offset by positive changes in parental behavior (Sandberg and Hofferth 2001). Considering all types of families, the most important demographic factor affecting children's time with parents between 1981 and 1997 was the increase in single-parent families, not maternal labor force participation. The decline in paternal time due to increasing numbers of parents rearing children without partners shows up as a lack of increase in overall parental time in all families, in spite of an increase in mothers' time. In two-parent families, however, decreased time with mothers because of increasing maternal work was offset by increasing

time with mothers and fathers due to behavioral changes. The behavioral changes uncovered here over a period of rapid social change are encouraging signposts for children. They run counter to popular claims that increased maternal employment and paternal indifference have reduced parental time with children in two-parent families, though low parental time is still problematic for children living in single-mother families.

Long-Term Earnings Structure Changes



In addition to the study of family influences on schooling and development, earnings, and adult outcomes, the PSID data can be used to test theories of the changing nature of work and the structure of wages. The availability of a long time-series on labor income in the PSID allows the examination of major changes in the labor market. The mid-1970s to late 1980s were the years of skill-based technical change. Despite the rise in the share of the labor force with higher education, the earnings of these workers continued to rise both in absolute terms and, even more, relative to those with less education. Data from the PSID on the percentile distribution of annual labor earnings for adult men employed at least fifteen hundred hours per year show that, throughout much of the lower part of the earnings distribution, there was a downward slide from 1973 to 1985, which was continued into the Gulf War recession in 1991. Since 1990 (and in many cases since 1985), the Consumer Price Index (CPI) adjusted wages show increases throughout much of the lower part of the earnings distribution (5th–30th percentiles) and the upper part of the earnings distribution (75th–95th percentiles). Only in the middle percentiles was there earnings stagnation during the period 1985–95. When we allow for a 1 percent per year CPI bias, even the middle percentiles experienced a rising standard of living over the period of the mid-1980s to the mid-1990s.

A parallel analysis for adult women shows even better earnings growth between the mid-1980s and the mid-1990s. For women, even in the middle percentiles, earnings rose at a rate above the CPI. At the 50th percentile, earnings rose 13 percent, from \$21,627 to \$24,280. Allowing for CPI bias, this is in the range of 25 percent per decade. At the upper part of the earnings distribution, the gains net of inflation were higher still. For the 90th percentile the 1985–95 gains were 19.5 percent, and for the 95th percentile the annual earnings of women working fifteen hundred or more hours rose from \$47,887 to \$60,648, a gain of 26.6 percent above the CPI.

Rising wages and labor income of educated workers, combined with rising relative supply, appear to be explainable by a simple general equilibrium model where skilled and less skilled workers initially trade final or intermediate goods that are more specialized to each. Information technology effects a type of “skill-extensive technical change” that allows the skilled workers to produce things previously in the domain of the less skilled. This technological competition (Gomery 1994) from the skilled workers erodes the economic role of the less skilled workers, reducing their income even as overall GDP rises (Johnson and Stafford 1998). The predicted result is economic growth, but uneven growth in which skilled workers receive more than 100 percent of the rising GDP growth, with redistribution away from the less skilled. Did the low-earner families move up the income scale by also acquiring job skills? Further analysis shows that much of the gain to college-educated workers is among the younger cohorts *and* among those in what the Department of Commerce identified as information technology industries (Kim, Johnson, and Stafford 2001). Additional work shows that beyond these cross-sectional snapshots there has been increased wage mobility, both upward and downward, from the mid-1970s on (Gottshalk and Moffitt 1994). However, much of the increase in intertemporal variability is within the upper decile of earnings.

The 1990s and Beyond



With new technology enhancing the ability to collect, process, and deliver data, what should be asked of whom? The “of whom” part is still heavily shaped by the genealogical structure set out in the design, as discussed earlier, and much of the “what” part is derived from the long continuity of measures on income and employment, housing, and food consumption that are part of the core. In recent years PSID staff have worked closely with the PSID board to redefine the core as part of a special effort to increase information about children living in PSID families. This has given rise to a new and broader set of measures that are considered to be core items—to be asked as part of every biennial PSID interview. Changes to the sample were made in 1997 to control costs (arising from the sample growth resulting from split offs) and to achieve better representation (e.g., of immigrants). Changing to biennial interviewing to reduce costs has led to pressure to increase the interview length to what seems an effective upper limit of seventy-five minutes.

Areas for increased use of the PSID that have led to a redefinition of the research directions include the following:

1. Intergenerational transfers and intergenerational research;
2. Wealth, savings, and consumption;
3. Life-course health and economic status;
4. Child development;
5. New welfare sequences to capture changing welfare policy; and
6. Immigration.

Measuring Wealth and Health

A representative topic of these areas, and one that interacts with many of the long-standing core topics, is wealth. Economic research in the study of wealth seems to have followed the stock market: high and rising to a peak in the mid- to late 1960s and then a long period of stagnation until approximately the last decade. Fortunately, the idea of adding wealth to the PSID came in the early 1980s, when it was decided that enough information on lifetime economic histories was available to make the study of the transitions into retirement a priority area. The first wealth data were collected in the PSID in 1984 with support from the NIA. Then, as now, there was a research interest in household responses to capital gains, particularly those gains from rising equity values. By measuring wealth increases in excess of active savings flows, one could, it was argued, measure and analyze capital gains. It was also decided to add information on prospective retirement plans (for those age forty-five to sixty-four), on global health and health-care utilization, and on pensions of the head of household and wife. To complete the financial picture, a wealth and savings module was designed, which, when combined with the long-standing series on housing and mortgages, would provide a measure of household wealth and active savings. Measuring active savings (money put into or taken out of the various items in a household wealth portfolio) required a sufficient time interval. A very short time interval is problematic since the interviews are not actually collected at uniform one-year intervals but often at shorter intervals as a result of appointments and availability of the respondent and interviewer. A five-year interval was chosen and the companion active savings measures were added in 1989. The wealth and savings measures were asked of all families, not just those nearer to retirement.

The quality of the wealth data was enhanced by the pioneering use,

starting with the PSID in 1984, of “unfolding bracket” questions (Juster and Suzman 1995; Juster and Smith 1997; Juster, Smith, and Stafford 1999; Hurd and McFadden 1996; for details about the procedure, see Juster’s introduction to part 2, this volume). For those households owning an asset, the proportion not reporting either a dollar amount or a bracket in the PSID wealth categories is surprisingly small, typically in single digits (Hurst, Luoh, and Stafford 1998, table A1).

The main shortcoming of the PSID data for analysis of wealth and saving behavior appears to be at the very upper end of the income and wealth distribution, where PSID coverage is not only sparse but also based on a visibly unrepresentative sample of very wealthy households. However, for the part of the wealth distribution below the top 1 or 2 percent, the PSID data appear to be very comparable to the demonstrably high-quality SCF data (Juster, Smith, and Stafford 1999). Even beyond the 98th percentile, the two surveys diverge greatly only beyond the 99.5 percentile, where SCF has the advantage of a high wealth oversample.

Learning about Wealth

Early work, from 1972 to 1989, demonstrated the impacts of the level and stability of income on odds ratios of mortality for individuals age forty-five to sixty-four. General health status has also been shown to have a strong correlation with household wealth (Smith 1999, table 9). Among the population under age fifty-five, the 1994 wealth ratio of those family heads reporting themselves to be in excellent health compared to those reporting poor health is eight to one for those age twenty-five to thirty-four; six to one for those age thirty-five to forty-four; and about four to one (on a much larger base) for those age forty-five to fifty-four. At this stage the interrelations among income from the labor market, lost income from injury or illness, and health gains from greater resources available to purchase medical care or more nutritious foods are likely elements in an empirical framework to understand the strong relation between wealth and health. Yet both theorizing and empirical work on this process are just beginning. What is the role of community influences? Do those who are healthier expect to live longer and thereby plan to acquire more wealth to support longer consumption streams? If so, do they look to start early in life? Are both health and wealth status driven by a common element such as future orientation, avoidance of unnecessary risk, or planning? How much of the wealth-health relation depends on medical and biological factors? How much depends on social factors and family relations? The tim-

ing of medical events as they relate to economic and family outcomes over the life course will become researchable once we accumulate histories, both retrospectively and prospectively, from our recently designed health modules for the PSID.

Conclusion



The PSID began in 1968 as a project with a specific mission: to understand the changing fortunes of lower-income families as part of the War on Poverty. To fulfill this mission several initial design features were implemented. First, a representative national sample was combined with an oversample of initially poor families. Second, to maintain a representative sample of young families, even over the initially planned five-year duration of the study, older children who left home to form their own families were added as new sample members. Third, by combining these three elements (the initial sample, the poverty oversample, and the newly formed families from each) through the use of weights, the resulting data portray the full U.S. population. With time this sample design has a weakness: the absence of new immigrants and the children of new immigrants born after the initial sample was drawn in 1968. By adding in this missing part of the evolving U.S. population in 1997 and 1999, the study continues to provide descriptive and analytic data on the full U.S. population some thirty years after its origin.

The initial content domains of the PSID were quite circumscribed. Besides attitudes and beliefs, the main quantitative elements were the money incomes and other financial resources flowing into the family to each of the individual family members. Expenditures were measured, where practical. The categories were chosen both to facilitate an understanding of the resources needed to participate in labor markets or in other ways to earn income (such as ownership of a functioning car) and to evaluate the real standard of living (housing, food expenditures, and numbers of equivalent adults in the family). The PSID became recognized as a unique resource quite early in its history. The reasons are simple: the strength of the sample design and the success in following split offs and continuing panel families were combined with a growing array of important panel measures of key economic and demographic variables with great analytic potential.

Through time, many of the initial attitudinal measures were curtailed,

and an expansion of the initial behavioral content occurred. By continuing to select content that fits together—in the sense of providing a comprehensive set of measures on family well-being, its antecedents over the life course and across generations, and its correlates—the PSID has become perhaps the most widely used research data set in the social sciences. Research use of the PSID data, rather than declining as the “interesting questions” in its focus have been studied, has, to the contrary, accelerated in the most recent decade. There is every reason to believe that this will continue into the future, as analysts begin to examine the clusters of variables measuring health status, wealth levels, intergenerational transfers, child learning environments in the home and in school, and the consequences of new social policy parameters that influence poverty status and eligibility for public transfers.

NOTES

1. At the PSID Web site (<http://psidonline.isr.umich.edu>) is a feature, PSID Data Quality, that reports on the studies conducted to assess the quality of measures such as wealth, income, health, demographic histories, and new measurement methodologies (Belli, Shay and Stafford 2001).
2. These publication data come from the 2000 PSID bibliography on the Web site.
3. Mary Corcoran, Martha Hill, and Karen Mason spearheaded the effort to establish comparability between the labor market information collected from men and women.
4. An extension of this analysis by Burkhauser and Duncan (1994) shows that the basic patterns changed little between the 1970s and late 1980s.
5. Over an eleven-year period, an annual real growth rate of 5 percent will increase a family's real income by over 70 percent; a negative 5 percent rate will nearly cut it in half.
6. Consistent with table 6.1, an income drop is defined as a situation in which size-adjusted family income fell by 50 percent or more in consecutive years.
7. Control variables include the age of the individual, calendar year, race, and average size of the given person's household over the first five years of the window.
8. In contrast to the poverty data, which are based on single spells of poverty, the welfare-receipt data allow for multiple spells of receipt. Since transitions out of poverty or off welfare are often followed in a year or two by another spell, it is important to attempt to capture multiple spells in these calculations.
9. Sixty percent rather than 50 percent was used to avoid classifying instances of small income changes as transitions out of poverty.
10. The instability measure used here is the median absolute percentage change in income among families in the bottom decile of the income distribution. Note that since data from the Scandinavian countries are based on administrative records, are not sub-

ject to interview response errors, and do not show consistently different patterns, measurement error is not likely to be an overwhelming factor in these relative rankings.

11. The regression models also control for the mother's schooling, family structure, race, gender, age of the mother at the birth of the child, total number of siblings, whether the mother ever lived in the South, number of geographic moves, and number of years the mother worked more than one thousand hours. Parental income is inflated to 1993 price levels.

12. As shown in table 6.5, Duncan et al. (1998) did find that high parental income during adolescence had a strong positive effect on completed schooling. Additional analyses produced the unsurprising result that having affluent parents as a teenager increases your chances of attending college.

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❧ PART 3 ❧

From the Study of Organizations to the Study of Health

Robert L. Kahn

The somber mood and temper of this new millennium, already marked by long-standing wars, unresolved enmities, and newly invented forms of terrorism, stand in sharp contrast to the optimism of the early years after World War II. The victory over Nazi Germany and its allies, the Marshall Plan as a uniquely generous contribution to the rebuilding of Europe, and the emergence of the United Nations organization as an instrument of international cooperation made it seem that many of the historic burdens and blunders that had plagued the world would now be eased and corrected.

The social sciences, perhaps especially the emerging hybrid of social psychology and its accompanying methodology of survey research, shared in this general optimism and developed their own manifestations of it. The uses and usefulness of survey methods during the war were becoming increasingly apparent as their practitioners turned or returned to academic life and authorship. Publication of the multivolume *The American Soldier* by Stouffer and his colleagues (1949) provided perhaps the most prominent wartime example of quantitative social research meeting both national needs and scientific standards.

In founding the Survey Research Center (SRC) at the University of Michigan in 1946, Rensis Likert and his close colleagues were expressing this optimism and hopefulness. By the standards of that time, they were already sophisticated survey researchers, but they almost certainly over-

estimated the power of survey data to guarantee wise and benign policy decisions. Two of the three original SRC programs—the research program in economic behavior and a looser aggregation of studies in a program called public affairs—were strongly oriented toward issues of national policy. The third, originally called human relations, began the SRC's studies of organizations. It was no less ambitious to become an instrument of policy change as well as scientific discovery, but the implicit targets were more corporate than legislative.

The application of survey methods to research in large-scale organizations was urged both by external factors and by Likert's long-standing interest in organizational issues. In the larger society, the doctrines of Frederick Taylor and the near worship of time study were under attack. Chester Barnard's insightful book on the executive function dates from the late 1930s (Barnard 1938), as does the famous Hawthorne research (Roethlisberger and Dickson 1939). Elton Mayo's critique of contemporary industrial society was still earlier (Mayo 1930). Robert Merton's major analysis of social structure came decades later, but in 1940 he published an influential article on bureaucratic structure and personality (Merton 1940, 1950).

How much of this research had informed the opposition to Taylorism is unclear. The anti-Taylor forces were a loose array of organizations and individuals often referred to as the human relations movement; they included academics, labor unions, and an assortment of social observers and critics. Their alternative principles were less clearly formulated than Taylor's reliance on time study and precise instructions for task performance, but they emphasized participation and flexibility in the work setting rather than unquestioning obedience and rigidity in prescribed task behavior.

Likert's interest in these matters had been apparent well before his years in Washington. Before moving there in 1939 to head the new Division of Program Surveys in the Department of Agriculture, he had directed research on morale and motivation at the Life Insurance Agency Management Association. Shortly after the SRC was established at the University of Michigan, Likert persuaded Daniel Katz, a social psychologist who had worked with the Division of Program Surveys in Washington and had done research on morale and productivity in shipyards during World War II, to join the Michigan group as the director of a new program of organizational studies. With an initial grant from the Office of Naval Research in 1947, Likert and Katz started the Human Relations Program, as it was first called.

Support from the Office of Naval Research was of great importance in getting the new program under way and in getting access to the corporations in which the early studies were conducted. However, the program soon came to depend on support by the organizations in which it was conducting research. These contractual relationships influenced the research in at least two ways: they emphasized single-organization designs rather than populations of organizations, and they involved requests for help in interpreting and implementing the survey findings.

The SRC's program of research on organizational issues thus dates from the Center's earliest years and is now in its sixth decade. Its development over those years is represented in the three chapters that follow. Chapter 7, by Robert L. Kahn, gives the programmatic history of organizational research at the SRC, decade by decade. The first ten years were dominated by cross-sectional surveys of single organizations, which concentrated on the behavior of first-level supervisors and the workers they supervised. Employee satisfaction and productivity were the dependent variables of interest, and the research reflected the hopeful hypothesis that workers who were satisfied with their jobs would express their satisfaction by delivering relatively high performance. By the end of the 1950s, data from the early studies led the researchers to replace this hypothesis with more realistic motivational propositions. The decade of the 1950s also saw the development of survey feedback as a systematic method for the utilization of survey data in large-scale organizations.

By the second decade of organizational studies in the SRC, the accumulation of findings and the experience of the researchers led to efforts at theoretical integration. Major examples are Likert's *New Patterns of Management* (1961) and *The Social Psychology of Organizations* by Katz and Kahn (1966). During the 1960s, organizational research in the SRC also paid increasing attention to structural factors, especially as reflected in the distribution of power and authority. The earlier development of survey feedback as a method of organizational change was tested in a series of field experiments, and the range of organizations under study was expanded to include labor unions and voluntary organizations.

Finally, the 1960s were years of change for the SRC organizational program itself. The early interest in survey feedback as a method of organizational change was enlarged and led to the creation of a new research center in the Institute for Social Research (ISR), the Center for the Utilization of Scientific Knowledge (CRUSK), dedicated to research on the process of data utilization itself. The earlier research on worker satisfaction was also expanded to include a broad array of well-being measures, studied as out-

comes of job demands and opportunities. This new research emphasis led to the establishment of a companion program in the SRC. The idea was that the Organizational Behavior Program would continue its concentration on organizational effectiveness as the main outcome of interest. The new program, initially called the Mental Health in Industry Program, would concentrate on the impact of organizational demands and rewards on the well-being of members. It later broadened into the Social Environment and Health Program (SEH), and its parent Organizational Behavior Program slowly dissipated.

In chapter 7, Kahn describes the decades of organizational research at ISR, including its later period of research on sources of stress at work, their effects on mental health and other signs of strain, and the factors that moderate the stress-strain relationship. Current work in the SEH Program is described in chapter 8 by Richard H. Price and in chapter 9 by James S. House and George A. Kaplan. Both of these chapters reflect a strong emphasis on measuring and assessing health—mental health in the Price chapter and physical health in the chapter by House and Kaplan. Both also show a sustained effort to extend and validate survey measures by linking them to criteria beyond self-report.

In his broad review of survey research on issues of mental health over a fifty-year period, Price distinguishes two main lines of development. The first emphasizes concepts and measures of well-being; the second attempts to measure the prevalence of mental disorders as clinically defined. The work of the SRC has contributed to both approaches but has concentrated on the first of them, the measurement of well-being and its social-psychological determinants. Price traces this development from the 1957 study *Americans View Their Mental Health* (Gurin, Veroff, and Feld 1960) through its 1976 replication (Veroff, Douvan, and Kulka 1981); from the study of well-being and subjective quality of life (Campbell, Converse, and Rodgers 1976; Campbell 1981); and from the National Study of Black Americans (NSBA), which included four waves of data over a thirteen-year period (Jackson et al. 1996). The chapter also includes the three national Quality of Employment (QOE) Surveys as part of this developmental sequence (Quinn et al. 1973; Quinn, Seashore, and Mangione 1975; Quinn and Staines 1979).

Of these studies, only *Americans View Their Mental Health*, with its use of projective tests and its inquiry into help seeking, reaches toward measuring the prevalence of mental disorders. Kessler and his colleagues, however, in the National Comorbidity Survey (NCS), link survey data directly to the DSM-III-R criteria of mental disorders (Kessler et al. 1994).

Chapter 8 concludes with a discussion of ways of improving the mental health of populations, an aim that is shared by the research both on well-being and on mental disorders.

Chapter 9 begins with a comprehensive review of the gradual entry of social science and survey research into the domain of health, including physical health and illness. The chapter then moves to an assessment of the current orientation of the SEH Program. The authors emphasize the transition of key staff members from researchers trained as social psychologists (with the emphasis on psychology) to those more identified with sociology and epidemiology. The programmatic studies accordingly shift toward investigation of sociological variables, especially socioeconomic status and its ramifications, as hypothesized causes of health or illness. Research on sociological risk factors includes race, ethnicity, socioeconomic status, and the derivative variable of socioeconomic inequality. Health outcomes include the "hard" variables of mortality and morbidity as well as the more familiar measures of self-reported well-being or illness.

The emphasis on populations, on sociological antecedents to health, and on the combination of self-report with other methods of measurement is a welcome development. As a longtime researcher on organizational phenomena, however, I hope to see increasing inclusion of organizational variables in the program's research. Organizations, especially work organizations, are the environments in which stresses are imposed or buffered, in which abilities are utilized or neglected, and in which aspirations are frustrated or fulfilled. They are also the vehicles by which socioeconomic comfort or privation is mediated and by which socioeconomic inequalities are imposed or resolved.

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