

## The Psychosocial Nature of Physical Health

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The improvement of population health is one of the major achievements of the twentieth century. Life expectancy at birth in the United States has grown from almost fifty years in 1900 to seventy-seven years as we enter the new millennium, an increase greater than that in all of prior human history (cf. Coale 1974). The end of the nineteenth and the first half of the twentieth centuries witnessed dramatic developments in biomedical science, associated with the work of Koch, Lister, Pasteur, Fleming, Salk and others, which focused on the conquest of infectious diseases. This work has been epitomized by the virtual eradication of smallpox and poliomyelitis, with the development and widespread delivery of a safe and effective antipolio vaccine in the 1950s and 1960s perhaps the most dramatic single example.

### Social Science, Survey Research, and Health



Social science, survey research, and the University of Michigan Survey Research Center (SRC) played significant roles in some of these developments. The SRC, for example, collected and tabulated the data on the 1953–54 field trials of the Salk polio vaccine, under the overall direction of epidemiologist Thomas Francis Jr. of the University of Michigan School of Public Health, leading to the dramatic announcement on April 12, 1955, that the vaccine was safe and effective. These events marked the high-water mark of the advance of the biomedical doctrine of specific etiology, which saw disease as caused by a specific biological agent and saw disease prevention and control as focusing on the identification and then

neutralization of that biological agent via treatment, immunization, or eradication.

Beginning in the same period, however, social science, survey research, and the SRC and Institute for Social Research (ISR), in conjunction with prescient biomedical scientists, developed new and broader perspectives on the nature, course, and etiology of disease. Increasingly, psychosocial models, methods, and data have come to complement, and in certain ways and areas even dominate, biomedical models and data. By midcentury in the developed nations of Europe and North America, and increasingly in the more rapidly developing nations of South America, Asia, and Africa, the nature of the diseases that threatened human health was beginning to change. The new epidemics were chronic diseases such as cancer and, especially, cardiovascular diseases (Omran 1971). Their emergence and spread largely arrested from the late 1950s to the early 1970s the dramatic and steady improvements in life expectancy and population health of the first half of the twentieth century.

### *The Study of Chronic Disease*

Compared to the generally acute infectious diseases, diseases such as cancer and cardiovascular diseases were chronic in both their etiology and their course—developing insidiously over a long period of time and then often having a long course of intermittent stages of activity and remission (House 1987). They were also not amenable to understanding or control within the dominant biomedical paradigm of searching for a single disease-specific etiologic agent and a single “magic bullet” that could roll back, prevent, or eradicate that agent. Rather, the causes and precursors of disease were multifactorial, with none either necessary or sufficient to produce disease (or conversely able to prevent or cure disease by its absence or eradication). A new terminology—“risk factors”—emerged to denote these multiple contingent causes or precursors of chronic disease (Aronowitz 1998).

At first the search for risk factors of chronic disease remained heavily biomedical, focusing on physiologic indicators such as blood pressure and cholesterol in the case of cardiovascular diseases or physical-chemical-biological environmental exposures such as asbestos and coal dust in the case of cancer and chronic respiratory disease. The role of such factors in the etiology and course of chronic disease was suggested by laboratory experiments with animals or case-control studies in humans, in which the characteristics and medical and life histories of cases with given diseases

were compared retrospectively to those of similar or matched controls without the disease. These case-control studies relied increasingly on the developing methods of survey research and social statistics.

These social science methods became central, however, to the new gold standard for establishing the etiologic importance of a risk factor—the prospective population or cohort study. Appropriate and sizable samples of populations were selected, assessed via interview and examination for health and putative chronic disease risk factors, and then repeatedly interviewed and examined over time to monitor the onset of mortality or morbidity and its subsequent course. The role of these putative risk factors in predicting the onset and course of disease could then be established. In the 1950s and 1960s a major set of continuing national and community surveys was initiated to monitor the prevalence of chronic and infectious diseases and, more important, to determine the role of various risk factors in their etiology and course—for example, the Framingham (MA), Tecumseh (MI), Evans County (GA), Washington County (MD), and Honolulu (HI) studies of cardiovascular disease; the National Health Interview Surveys (NHIS); and the National Health (and Nutrition) Examination Surveys (NHES or NHANES). They provided the evidence that blood pressure, cholesterol, and smoking were major risk factors for cardiovascular disease. None of these studies or findings would have been possible without the parallel developments in the theory, methods, and practice of survey sampling, interviewing, data processing, and statistical analysis in the social sciences (cf. chap. 2, this volume).

*From Biomedical to Psychosocial Models and Data*

The impact of social science, survey research, and the SRC and ISR on the science and practice of public health and even medicine went much broader and deeper, altering the very nature of the variables, theories, and data used to understand and improve physical health. The confluence in the 1950s and 1960s of strands of biomedical thinking of ancient origins with newly developed theories and methods of social science gave rise to new psychosocial or biopsychosocial paradigms for the study and improvement of the physical health of individuals and populations (see chap. 8, this volume, for similar developments in the area of mental health).

The germ theory model of specific etiology, which dominated thinking about health in much of the late nineteenth and early twentieth centuries,

had its root in ancient times in the Greek goddess Panakeia, one of the two daughters of Asclepius, the Greek god of health. Panakeia was the healing goddess, whose knowledge of natural remedies carries over today in the search for magic bullets or panacea. A parallel framework derives from Panakeia's sister, Hygiea, who saw health as the natural order of things, maintained by living with reason and moderation and proper adaptation to the environment (Renaud 1993). Thus, hygiene or promotion of broadly healthful lifestyles and environment, rather than preventive or therapeutic measures against highly specific agents or diseases, was the avenue to promoting health and preventing disease. These ideas inspired public health efforts in ancient times and again over the past few centuries to promote such measures as clean water supplies, public sanitation, and general reduction of environmental pollutants, programs that were reinforced but not originated by the germ theory of disease. In the 1950s, Dubos (1959) and others argued for renewed emphasis on this view of health as a product of more general organism-environment adaptation, complementary to the late-nineteenth- and early-twentieth-century approaches targeted at very specific etiologic agents.

This more environmental approach to health was given psychosocial form by several specific twentieth-century developments. One was a new body of evidence on the "limits of modern medicine." The work of Thomas McKeown (1976, 1988) and others (McKinlay and McKinlay 1977; Fogel 1994) showed that most of the advance in overall population health and life expectancy of the nineteenth and twentieth centuries occurred prior to the development of the germ theory of disease, much less its widespread application via preventive vaccination or pharmacologic treatment. Even those admiring of the achievements of modern medicine estimate that only about five years of the almost thirty-year increase in life expectancy in the United States in the twentieth century were due to modern preventive or therapeutic medical practice (Bunker, Frazier, and Mosteller 1994), with many more years attributable to a combination of public health and sanitation (increasingly informed by modern medical science but also antedating it) and especially broad patterns of socioeconomic development with associated improvements in nutrition, clothing, housing, and household sanitation (Preston 1977; Wilkinson 1996).

A second major development was the recognition of the impact of individual behavior or lifestyle, most notably the impact of cigarette smoking. The surgeon general's (DHEW 1964) report *Smoking and Health* drew on a broad range of evidence, including that from community epidemiological

surveys, to identify smoking as a clear risk factor for all causes of mortality and especially lung cancer and cardiovascular disease. At the same time, Lester Breslow fielded a major continuing probability survey of the adult population of Alameda County, California (Oakland and environs), to understand the role of a broad range of health behaviors or lifestyles in promoting health and preventing disease. Lisa Berkman and Breslow (1983) summarized the results of this and other work, showing that not only smoking but also low levels of physical activity and immoderate levels of body mass and alcohol consumption were all significant and substantial risk factors for mortality (cf. Kaplan 1992). Thus again via the tools of survey research, health behaviors or lifestyles became major risk factors for health and targets for health promotion and disease prevention (DHHS 1990).

Finally, converging evidence from both laboratory psychophysiology and sample survey epidemiology was suggesting that other psychosocial characteristics of individuals and their environments, and the relation between these, were also risk factors for disease. Physiologists Walter Cannon (1932) and Hans Selye (1956) documented a syndrome of physiological responses (including adrenocortical secretions and related neuroendocrine activation, gastric secretions, and elevated heart rate and blood pressure, labeled by Selye as the "general adaptation syndrome," or GAS) to a wide range of environmental stressors and challenges, including infectious agents, heat, cold, physical pressure and restraint, and social psychological threat. Cannon and Selye saw this syndrome as an evolved adaptive response to physical stressors requiring "fight or flight," but one that became maladaptive in the face of modern stressors, many of which are psychosocial in nature and often chronic and inescapable. Thus, in the face of these modern stressors, the GAS may become a prolonged rather than transitory mode of response, giving rise to what Selye termed "diseases of adaptation," such as hypertension, heart disease, ulcers, and arthritis. Thus, there was a plausible basis by which purely social or psychological conditions or stimuli with no obvious connection to health can give rise to physical disease and even death. This physiological explanation for the impact of psychosocial factors on physical health has been deepened and extended into the emerging field of psychoneuroimmunology (Ader, Felten, and Cohen 1991).

This confluence of theoretical and empirical developments, in which survey research and social science had already played a significant role, gave rise to a number of centers of research on the role of psychosocial fac-

tors in the etiology and course of physical as well as mental health and illness. Perhaps most notable among these centers in the country were the San Francisco Bay area (including often collaborating researchers at the University of California campuses at Berkeley and San Francisco, Stanford University, the Alameda County Study [aka the Human Population Laboratory of the California Department of Public Health], Stanford Research Institute, and others); the Boston Cambridge area (especially at Harvard); Duke University and the University of North Carolina School of Public Health in the Research Triangle area of North Carolina; Columbia University; the University of Pittsburgh and Carnegie Mellon University; and since 1958 the SRC and ISR at the University of Michigan, in collaboration with researchers in the University of Michigan School of Public Health. Stockholm, Sweden, also became a major center, including the University of Stockholm, Karolinska Institute, and later the National Institute for Psychosocial Factors in Health, which had significant ties to the SRC/ISR group. The work at SRC and ISR played a leading role in, and well exemplifies, the ideas and accomplishments that have made health research and policy increasingly psychosocial in nature over the last several decades.

The Survey Research Center/Institute for Social Research  
Social Environment and Health Program



As indicated by Robert Kahn in the introduction to part 3 and in chapter 7, the SRC's Organizational Behavior Program began to shift in the late 1950s toward a focus on the impact of the organizational environment on individual satisfaction and well-being. Two researchers from that program, Kahn and Floyd Mann, joined with John R. P. French Jr., a founding member of ISR's then only other center, the Research Center for Group Dynamics, to found a new intercenter program, the Mental Health in Industry Program. With research support from the National Institute of Mental Health and consistent with the SRC and ISR emphasis on programmatic research, French, Kahn, and Mann embarked on a range of research projects on the impact of organizational environments on individual mental health and well-being, collaborating with each other and other colleagues and students. But first they also developed a programmatic statement and theoretical framework that guided and integrated the various research activities (French, Kahn, and Mann 1962).

*The Institute for Social Research Model and the Study of  
Occupational Stress*

Perhaps the most enduring legacy of this early period of research was French, Kahn, and Mann's overarching theoretical framework, often just known as the "ISR model" for research on psychosocial factors in health. The work of Cannon, Selye, and others provided a theoretical model for understanding how psychosocial factors and stresses could "get under the skin" to cause physical as well as mental illness. Their work did not, however, explain how the subjective experience of stress, which affects both mind and body, is itself generated. The ISR model (see fig. 7.1) did just this, constituting the first specification of a general theoretical framework that has been utilized in other forms and refinements by themselves (French, Rogers, and Cobb 1974) and by many others (e.g., Lazarus and Folkman 1984; McGrath 1970) under rubrics such as stress and adaptation, stress and coping, or stress-diathesis models. The model in figure 7.1, reflecting its origins in organizational research, did not yet make health the central outcome. However, health became central in later variants of the paradigm, one of which (from House 1981) is shown in figure 9.1.

The key feature of the ISR model and its successors or imitators is that objective social circumstances or potential stressors give rise to variable perceptions of the stressfulness or other characteristics of the situation, depending on characteristics of the environment or the individual that are referred to as conditioning, moderating, buffering, or vulnerability factors. Perceptions of stress or threat then give rise to physiological, psychological, and social responses either that help to reduce the objective stressor or perceived stress and hence protect health or that lead to adverse mental or physical health outcomes via the pathways illuminated by Cannon, Selye, and subsequent psychophysiological research.

The ISR researchers immediately utilized this framework in their research, for example, in Kahn and his colleagues' (1964) seminal volume, *Organizational Stress*. Using a combination of survey studies of both national populations and more focused organizational samples, this work showed that objective role conflict (the conflicting demands of the others who interact with the occupant of an organizational role) is predictive of perceived role conflict, and both of these are associated with greater feelings of tension or stress and decreased psychological well-being. These relationships were moderated, however, by both individual dispositions (e.g., flexibility versus rigidity) and the quality of social relationships with supervisors and coworkers—personal flexibility and/or supportive

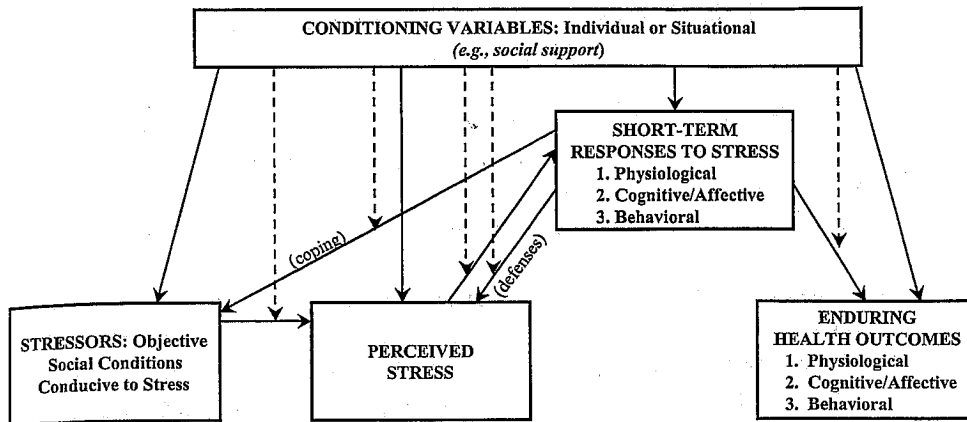


FIG. 9.1. A paradigm of stress research. Solid arrows between boxes indicate presumed casual relationships among variables. Dotted arrows from the box labeled "conditioning variables" intersect solid arrows, indicating an interaction between the conditioning variables in the box at the beginning of the solid arrow in predicting variables in the box at the tip of the solid arrow. (Redrawn from House 1981, 36.)

supervisors and coworkers reducing the amount of perceived role conflict in the presence of a given level of objective conflict or reducing experienced tension and psychological distress in the face of given levels of objective or perceived role conflict. French and his colleagues (Kasl and French 1962; French, Tupper, and Mueller 1965; Caplan et al. 1975) did similar work showing the adverse mental and physical (e.g., blood pressure) health consequences of low occupational status and quantitative and qualitative work overload. For example, the greater workload and responsibility of administrators (versus professors or scientists) in university and federal science and technology organizations was associated with higher levels of blood pressure and cholesterol on average. Again, the effects were moderated or buffered by individual and social factors, including supportive supervision. Mann's interests turned increasingly toward interventions to improve the well-being and health of organizations' members, and he became the founding director in 1964 of the first new ISR center, the Center for Research on the Utilization of Scientific Knowledge (discussed in chap. 7, this volume).

As the Mental Health and Industry Program broadened its staff and its research interests beyond the study of both organizations and mental health, its name changed to the Social Environment and Health Program.



The most important impetus for these changes was the recruitment to SRC and ISR in 1962 of Sidney Cobb, a physician-epidemiologist whose research interests had been moving increasingly in psychosocial directions. Cobb brought with him a biochemist, George Brooks, and a biochemical laboratory was established in the ISR building. The range of outcomes studied broadened beyond mental health to include chronic diseases (e.g., arthritis and cardiovascular diseases) and their biomedical precursors or risk factors (e.g., blood pressure, cholesterol, and serum uric acid). The range of social environments and experiences studied also expanded beyond work organizations to include unemployment, status inconsistency and role conflicts in the family, and relations between work and family.

Cobb converted one of French's social psychology students, Stanislav Kasl, into a social epidemiologist who later helped to develop an important center of social epidemiologic research at Yale. Together with French and Kahn they showed that unemployment due to plant closings had a broad range of deleterious effects on the physical and mental health of workers, including depression, reduced self-esteem, anxiety, resentment, reported insomnia and physical health problems, and elevations in physiological indicators such as blood pressure, cholesterol, and pulse rate. It is interesting to note that the health changes become quite pronounced during the period of anticipation between the announcement of the plant closing and the actual termination, with post-termination effects dependent on the length and severity of the unemployment experience (Cobb and Kasl 1977). Cobb also led a major study of the health impacts of job stress in air traffic controllers (Cobb and Rose 1973); and French, Cobb, and Robert Caplan embarked on a continuing study of role overload and stress among scientists and administrators of the National Aeronautics and Space Administration and later samples of multiple organizations (Caplan et al. 1975). Kahn (1981) summarized the cumulative evidence from this program of research and related work by others, showing that work stress and unemployment were consequential risk factors for physical and mental health.

#### *From Work Stress to Social Support*

These and later ISR studies (e.g., House et al. 1979; House 1981; House et al. 1986; House and Cottingham 1986) were major contributors to establishing occupational stress as a risk factor for morbidity and mortality

from cardiovascular disease and other causes. Although research in the SEH programs and more broadly in SRC and ISR gradually moved away from the initially central focus on work and organizations, these issues remained important in some portions of SEH (cf. chap. 8 by Price) and elsewhere. For example, Karasek and Theorell (1990) and colleagues in the United States and Europe, drawing in part on ISR research, developed new theory and empirical evidence that health outcomes were a joint function of job stress, or demands in their framework, and decision latitude, or control on the job. They and ISR researchers were equally interested in other individual and social factors that could potentially buffer or compensate for the deleterious impact of stress on health. This interest led the ISR researchers to become leaders in theoretically conceptualizing and empirically measuring social relationships and supports and documenting their important beneficial effects on health. Drawing on his work with Caplan, French, Kahn, Kasl, and others, Cobb (1976) authored one of the two foundation papers (the other was Cassel 1976) that pointed to social relationships and support as a major determinant of health and the way stress affects health.

Social relationships and supports became a central research agenda for the SEH Program and other major centers of research on the psychosocial nature of health about the time, in 1978, that House rejoined the program in which he had received graduate training in the 1960s, after spending eight years on the faculty at Duke University and collaborating with John Cassel and other researchers in the Department of Epidemiology at the University of North Carolina. Initial work by Caplan, French, House, and their colleagues showed the important role of social support from supervisors, coworkers, and spouses in promoting mental and physical health and buffering the adverse effects of occupational stress (Caplan et al. 1975; LaRocco, House, and French 1980; House 1981). Following the lead of Berkman and Syme (1979), House and his colleagues broadened the focus to the impact of social relationships on health in general populations, first showing that social relationships were protective against all-cause mortality in the Tecumseh Community Health Study (House, Robbins, and Metzner 1981), even with substantial controls for baseline demographic and biomedical indicators of health or its risk factors, and then showing that these results were part of a broad convergence of prospective epidemiologic research, arrayed in figure 9.2, that showed lack of social relationships to create a risk for all-cause mortality comparable to that of cigarette smoking (House, Landis, and Umberson 1988).

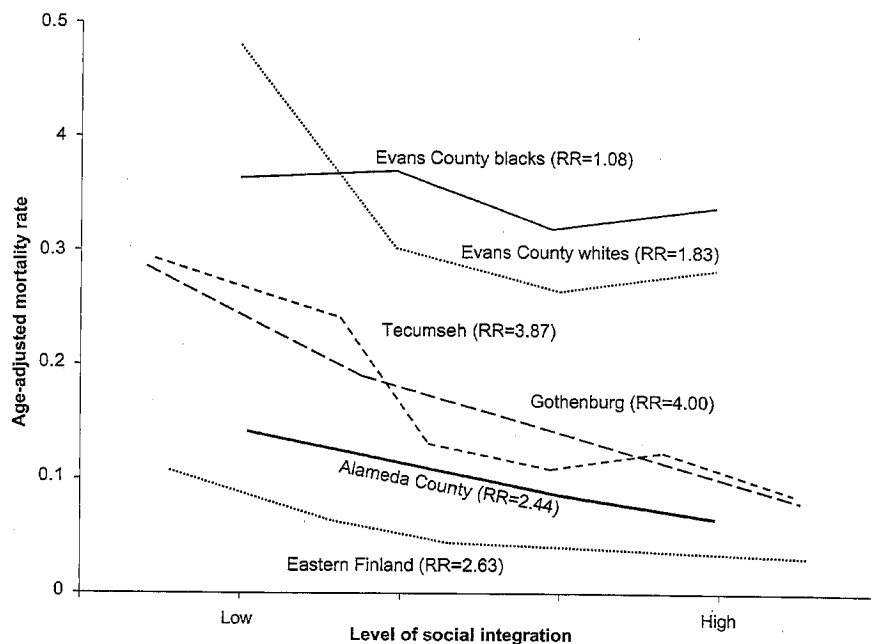


FIG. 9.2. Level of social integration and age-adjusted mortality for males in five prospective studies. RR is the relative risk ratio of mortality at the lowest versus highest level of social integration. (Redrawn from figure 1 of House, Landis, and Umberson 1988.)

#### *A New Focus on Aging*

The aging of the population of the United States and the world has posed new issues and problems for science and society. Social science at SRC and ISR, and more generally, has responded to these societal changes with an increased focus on aging. Stimulated by early work at the Duke University Center on Aging and Human Development (Busse and Maddox 1985) and elsewhere, and supported in considerable degree by the establishment of the National Institute on Aging and its strong program of social and behavioral research, this new focus involved growth not only in the fields of gerontology and geriatrics but also in the methods and paradigms of the full range of social sciences being applied to and shaped by the phenomenon of an aging society. Examples of this were evident across most of the major research programs and centers of SRC and ISR (cf. chaps. 4, 10, 11, 12, and 14) and very much within the SEH Program. Kahn

and Toni Antonucci initiated a national longitudinal study of the nature, determinants, and health consequences of what they termed "convoys" of social support across middle and later life (Kahn and Antonucci 1981). House, Kahn, and Ronald Kessler joined with Regula Herzog of the SRC Social Indicators Program and James Jackson and Camille Wortman of the RCGD in a major program project proposal centered around two major longitudinal studies: (1) Americans' Changing Lives (ACL), on the role of psychosocial factors in the maintenance of health and effective functioning over the life course in a national sample of 3,617 adults age twenty-five or older, first interviewed in 1986 and reinterviewed in 1989 and 1994; and (2) Changing Lives of Older Couples (CLOC), on the prospective impact of widowhood in a sample of 1,532 members of married couples with husbands age sixty-five or older in the Detroit metropolitan area who were first interviewed in 1987-88, with individuals whose spouses subsequently died reinterviewed (through 1993) at six to nine months, eighteen to twenty-four months, and about forty-eight months after the death of their spouse. Analyses and mortality follow-up of these studies continue, and a fourth wave of interviews of the ACL sample occurred in 2001-2002.

These studies have documented the continuing and growing importance of social relationships and supports in older age (Kahn and Antonucci 1981); the extent, nature, and beneficial health consequences of both paid and unpaid productive activity over the life course (Herzog et al. 1989; Herzog, House, and Morgan 1991; Musick, Herzog, and House 1999); the deleterious health effects of widowhood but also variation in these effects by gender and by the pre- and postbereavement marital and psychosocial characteristics and experiences of the deceased and surviving bereaved spouses (e.g., Umberson, Wortman, and Kessler 1992; Carr et al. 2000); and the considerable role of psychosocial factors, especially socioeconomic status (which seems to influence and shape almost all behavioral and psychosocial risk factors), in the maintenance of health and effective functioning in middle and latter life (House et al. 1990, 1994; House and Williams 1996; Lantz et al. 1998). For example, the data in figure 9.3 shows how the experience of functional limitations varied by age and education in the ACL sample in 1986 (with lower educated persons showing levels of functional limitation in their thirties, forties, and early fifties that are only observed among higher educated persons who are twenty to thirty years older, with the higher educated manifesting almost no limitations prior to age fifty-five). As shown in figure 9.4, those differences were largely eliminated when persons with different levels of education were statistically equated in terms of income and eleven other indi-

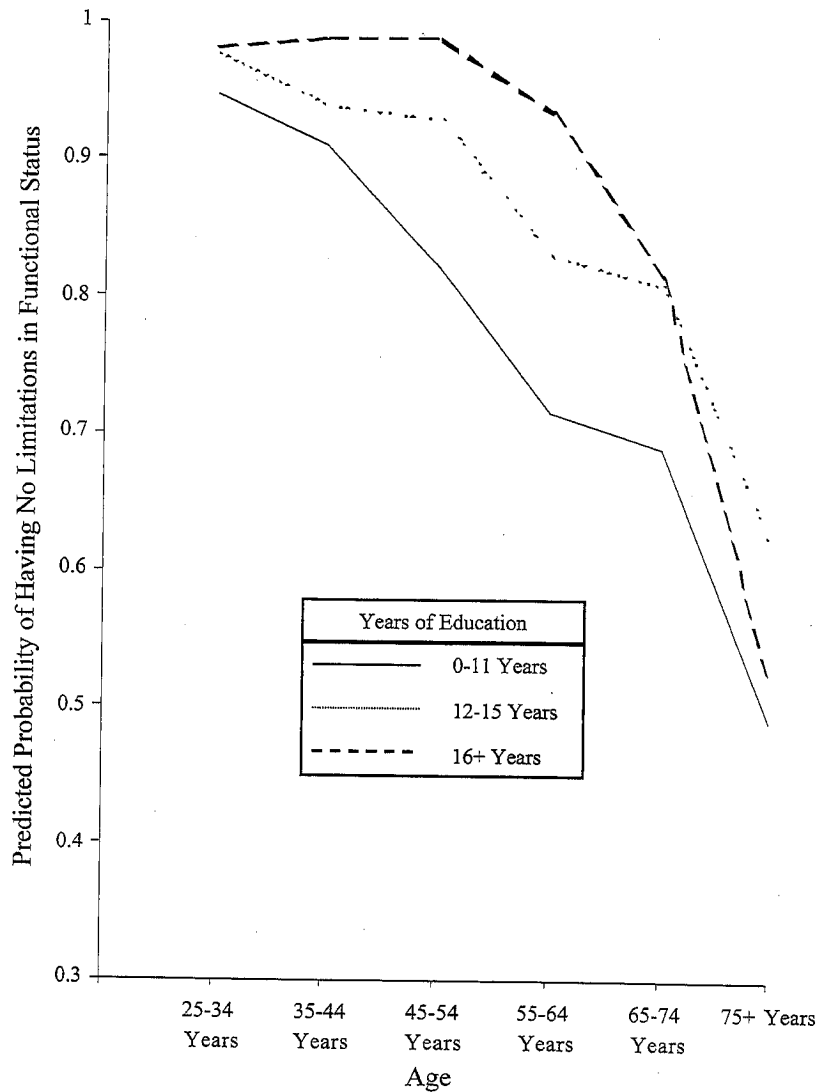


FIG. 9.3. Age by predicted probability of having no limitations in functional status within levels of education, controlling for sex and race. (Redrawn from House et al. 1994, 223.)

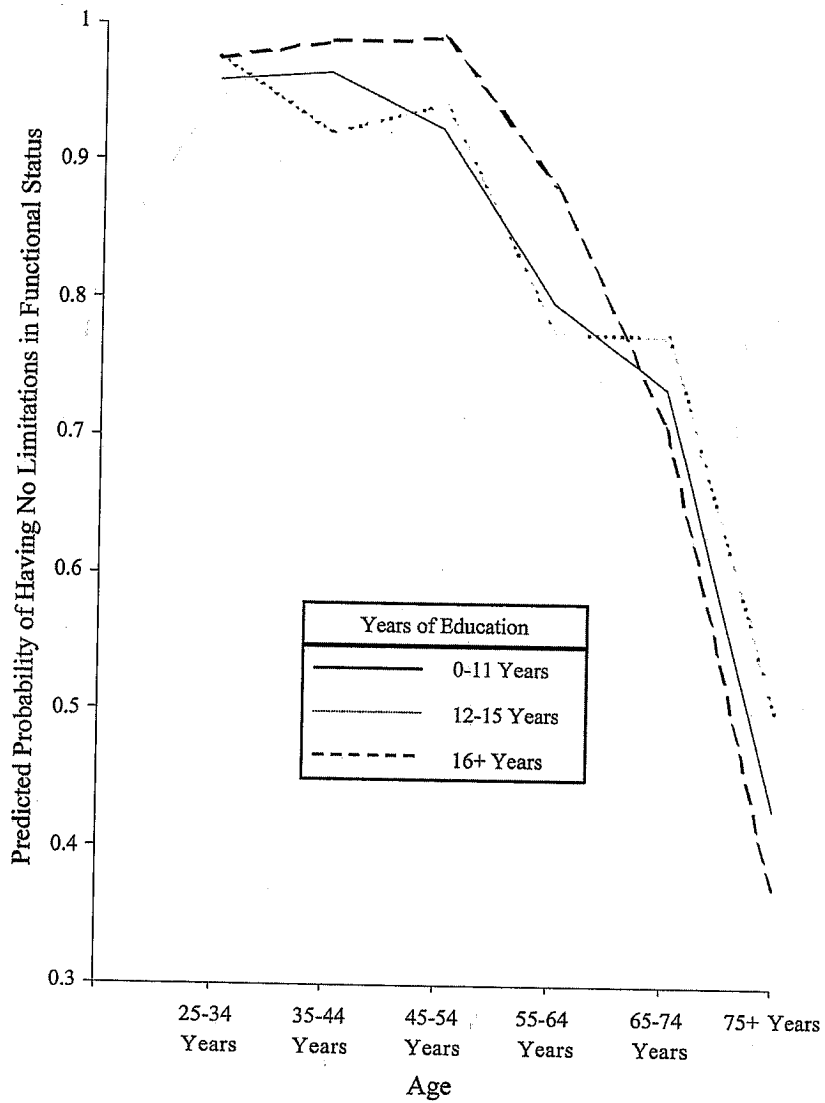


FIG. 9.4. Age by predicted probability of having no limitations in functional status within levels of education, controlling for sex, race, income, the interaction of age times income, and exposure to psychosocial risk factors. (Redrawn from House et al. 1994, 223.)

cators of health behaviors (i.e., smoking, drinking, and weight), acute and chronic stress, social relationships and supports, and psychological dispositions (i.e., self-efficacy).

*A Broader Social Focus*

In the 1980s and 1990s, the SEH Program continued to evolve toward a broader social focus, as Caplan, Cobb, French, Kahn, and Kasl—who all except Cobb were trained as psychologists—retired or moved elsewhere and were succeeded by sociologists (James House, Ronald Kessler, and David Williams), social epidemiologists (Sherman James, George Kaplan, and John Lynch), and a community psychologist (Richard Price). The program participated and played a lead role in moving toward a new frontier in the study of psychosocial factors in health—understanding and alleviating the large, persistent, and even increasing socioeconomic and racial/ethnic disparities in health in our and other societies. Stimulated by the seminal findings in the United Kingdom that socioeconomic differences in health had persisted and even grown in the several decades following the establishment of the National Health Service (Townsend and Davidson 1982; Marmot, Kogevinas, and Elston 1987), the work of the SEH researchers contributed to the recognition of these disparities as a major public health problem in the United States (Haan, Kaplan, and Camacho 1987; Haan, Kaplan, and Syme 1989; House et al. 1990, 1994; Kessler 1979; James et al. 1987; James 1993; Williams 1990; Williams and Collins 1995). Their reduction has become a major priority of the Public Health Service and National Institutes of Health for national health research and policy (DHHS 2000; Varmus 1999).

The results of the ACL study depicted in figures 9.3 and 9.4 and similar results in other studies (Lynch et al. 1996) focused interest on the role of socioeconomic status as a kind of master status or fundamental cause (House et al. 1990; Link and Phelan 1995) that shapes individuals' experience of and exposure to most all behavioral and psychosocial risk factors in health and hence their ability to maintain health and effective functioning over the life course. Kaplan brought to Michigan in 1997 an even longer history of similar research and findings in the Alameda County Study (e.g., Haan, Kaplan, and Camacho 1987; Haan, Kaplan, and Syme 1989) and a Finnish cohort (Lynch et al. 1996) and a new focus on the role of income inequality in the health of the populations of those areas

### *The Psychosocial Nature of Physical Health*

(Kaplan et al. 1996; Lynch et al. 2000). Socioeconomic deprivation and unemployment (especially its attendant financial strain) were also major foci of work on mental health by Kessler, House, Price, and Amiram Vinokur (see chap. 8).

James and Williams brought with them in the early 1990s ongoing programs of research on the way race and ethnicity and socioeconomic status combine to influence health. James's work has shown the deleterious health impact of an orientation of striving to achieve in the face of adversity (labeled "John Henryism") among African-Americans, whose combination of racial/ethnic and socioeconomic status poses great obstacles to achievement (James et al. 1987; James 1994). Williams's work showed that, although socioeconomic factors can account for a considerable degree of racial/ethnic disparities in health, the experience of discrimination is one of a number of factors that explain why racial/ethnic disparities in health persist even among persons of equivalent socioeconomic positions (House and Williams 2000; Williams 1997; Williams et al. 1997).

### *Looking Downstream and Upstream*

The research of the members of the SEH Program occupies a unique niche in the burgeoning fields of medical sociology, health psychology, social epidemiology, and behavioral medicine. The research is anchored in survey studies of general national and community populations in the United States and other countries (e.g., Finland and South Africa), increasingly of a longitudinal nature. These surveys provide a continuing record of psychosocial characteristics and experiences of these populations and their reported health status, and they serve in and of themselves as the basis of important analyses of a variety of psychosocial factors in health. However, the SEH researchers seek to link these survey data, on the one hand, to "downstream" biomedical assessments of mortality, morbidity, and psychophysiological risk factors and pathways and, on the other hand, to independently generated "upstream" assessments of the social environments and contexts in which individuals live, work, and play (Kaplan and Lynch 1997, 1999). These emphases resulted in the SEH Program and University of Michigan School of Public Health's being awarded in 1999 one of five NIH-initiated Centers for Mind-Body Research, with the Michigan center focused on understanding socioeconomic and racial/ethnic disparities in health.



The Psychosocial Nature of Physical Health: Looking  
Backward and Forward

Over the past forty years, survey research and related social science methods and theories have transformed our understanding of the nature and future of individual and population health, with the SEH Program at SRC being a central player and exemplar of this transformation. When the SEH Program began in 1958, the idea that behavioral, psychological, and social factors played a major role in health was regarded skeptically, if at all, by most biomedical and health researchers and practitioners and the general public. Today we know that poor health behaviors, chronic and acute stress, lack of social relationships and supports, and a variety of psychological dispositions (e.g., anger/hostility, lack of self-efficacy, hopelessness, and depression) are major risk factors for morbidity and mortality from most chronic diseases and all causes. We also understand that socioeconomic and racial/ethnic disparities are major public health problems in the United States, which is arguably the reason that the United States lags increasingly behind many developed countries in levels of population health (e.g., life expectancy and infant mortality), despite spending more, absolutely and relatively, on health care and health research than any nation in the world.

Conceptual bases of this new understanding of the psychosocial nature of physical health have derived from long-term interdisciplinary research programs such as the SEH Program, while the empirical foundation is a growing body of longitudinal probability sample survey studies, combining assessment of psychosocial and medical variables in major community and national populations—the so-called prospective epidemiologic study. Thus, the methods of survey research have helped to generate both the data and the theory underlying a new psychosocial conception of the nature and determinants of individual and population health, which must be numbered as one of the significant contributions of social science in the latter half of the twentieth century. The recent revolution in genomics is providing new insights into biological disease processes, but the impact of genomics on the major sources of morbidity and mortality such as heart disease and cancer will be generally to add factors to a multicausal process in which psychosocial variables play an increasingly large role.

There remains a great deal to learn about what psychosocial factors are most consequential for physical as well as mental health and how and why this is the case. Achieving such understanding requires increasing

linkage of survey data both to measures of the broader social and physical-chemical-biological environments in which people live, work, and play and to the physiologic and genetic factors that combine with psychosocial factors in producing health outcomes (House 2002). A particularly promising area of investigation lies in the understanding of the sociophysical environments in which people live, work, and learn. As we begin to understand the critical nature of the effects of such environments on risk factors and health outcomes (Kaplan 1996; Sampson, Raudenbush, and Earls 1997; Robert 1998, 1999), the need for the development of techniques that describe such environments, the interactions that occur in them, and the demands and resources that they represent increases. This presents an important opportunity to build intellectual and methodological bridges between similar efforts in urban sociology (Wilson 1987; Sampson and Wilson 1995), child development (Brooks-Gunn, Duncan, and Aber 1997), ethnography (Center for the Ethnography of Everyday Life at SRC/ISR, directed by anthropologist Thomas Fricke; Newman 1999), and medical sociology (Macintyre, Maciver, and Sooman 1993). Survey research will remain central to the population-based research necessary to answer these questions. The Michigan Center for Mind-Body Research has launched a major survey study of the health of adult residents of Chicago in relation to their psychosocial life situations and the social and physical environments in which they live and work.

We also should begin to think more deeply about, and even act on, the policy implications of existing research theories and findings. We need research that evaluates (and even initiates) planned or unplanned social changes or interventions that affect psychosocial risk factors for health—ranging from income and racial/ethnic discrimination to stress and the social and psychological factors that may be protective of health. The work of Price, Vinokur, and colleagues of the Michigan Prevention Research Center in SRC (described in chap. 8) represents one such effort.

In sum, survey-based social science research and the SRC and ISR have played a major role in transforming our understanding of the nature of individual and population health in the United States and in the world in the twentieth century, just as they have transformed our understanding of economics, the life course of individuals and families, politics, and race and ethnicity. In the area of health, the capacity to carry out long-term studies of probability samples of broad general populations has been a sine qua non for generating in a period of forty to fifty years the empirical evidence and theoretical understanding of psychosocial variables as major determinants or risk factors for physical as well as mental health.

The task for the next century is not only to continue to refine our knowledge and understanding of how and why psychosocial factors are so consequential for health but also to begin to understand how this knowledge can be used more effectively to promote and improve individual and population health. Interdisciplinary survey-based research will remain central to that process.

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❧ PART 4 ❧

Developments in the Study of Family  
and the Life Course

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The scientific study of families and the lives of their members has burgeoned over the past fifty years. Through the application of surveys of human populations, along with other methodological approaches, a great deal of knowledge has been developed concerning the historical, demographic, economic, cultural, and social structural influences on human lives. This section introduces the chapters that follow and places them into a larger framework for the study of family and the life course.

The Life-Course Perspective



The study of lives and the life course focuses on patterns of developmental trajectories, the ways in which events and experiences shape those patterns, the ways in which trajectories across different realms interconnect, and the intersection of development, ecology, and history within social institutions and social structure (see Settersten 1999). Historical factors clearly shape the pathways of individuals in family, education, work, health and well-being, religious, political, and leisure or retirement activities, as well as shaping the institutional contexts in which those developments take place.