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Chapter 7

Understanding and Improving the Mental Health of Populations

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The last half-century of survey research on the mental health of populations has persistently addressed this broad question: "What conditions of mental health are experienced by particular groups in society and what might be done to improve those conditions?" Two arenas of concentrated scientific interest have emerged. First, a lively debate has developed about the appropriate definition and measurement of mental health, focusing on whether mental health should be defined as general psychological well being or merely the absence diagnosed mental disorder. Second, mental health population surveys have attempted to increase our understanding of how to improve the mental health of citizens by understanding naturally occurring patterns of help seeking for personal problems or mental disorder and identifying gaps in available services.

Researchers in the Survey Research Center at the Institute for Social Research have played important roles in attempts to answer these concerns, working in interdisciplinary teams involving psychiatrists, psychologists, sociologists, epidemiologists, and survey methodologists (Cannell & Kahn, 1984; Frantilla, 1998). This chapter reviews survey research on mental health of populations conducted over the last 50 years with an emphasis on surveys that assess the mental health of whole populations. After a brief examination of the early history of mental health surveys immediately after World War II, we will turn to an examination of two quite different but complementary approaches to assessing the mental health of populations. The first emphasizes the measurement of psychological well-being, while the second focuses on estimating the prevalence of mental disorder. In what follows we will examine major studies conducted in each of these two research traditions, and how each approach evaluates the mental health needs of populations. Finally, we will offer an inventory of promising future directions for improving the mental health of populations.

1.0 Historical Roots of Population Studies of Mental Health

Concern with the mental health of populations in United States has been most pronounced in times of turbulent social change. As early as 1855 Edward Jarvis' report, "Insanity and Idiocy in Massachusetts", devoted special attention to effects of immigrant status and social class differences on mental health (Vander Stoep and Link, 1998). The period during and immediately after World War II also reflected a resurgence of interest in mental health, particularly in the psychological fitness of troops (Star, 1950) and the traumatic impact of combat. The social causes of psychological well-being in populations took the center stage in this period, and social psychiatry and social psychology vigorously put forth new ideas about the role of social circumstance and economic deprivation in the development of mental health problems (Hollingshead and Redlich, 1958; Faris & Dunham, 1939). For example, the Sterling County study (Hughes, Tremblay, Rapoport and Leighton 1960) assessed the mental health of a rural Canadian community and suggested that the loss of community cohesion eroded individual psychological well-being. The Midtown Manhattan study (Srole et al. 1962; Srole, 1975) focused on the impact of urban stress and immigration and revealed relationships between stressful life conditions in urban settings and mental health problems. By the late 1950s a growing interest in psychological well-being in the United States resulted in the Joint Commission on Mental Illness and Health (1961) calling for a large scale study that would provide broad understanding of the mental health of Americans.

Even while this line of research on the social roots of mental health problems was expanding, epidemiological and medical approaches were also gaining favor. The Baltimore study (Pasamanick, Roberts, Lemkau and Krueger 1956) was an early attempt to understand the distribution of medical and mental health conditions in poor communities and to identify gaps in

the provision of services for the chronically mentally ill. A second study by Tischler, Henisz, Myers, and Boswell (1975) sought to describe the distribution of cases of diagnosed mental illness in a community sample. Still other studies were aimed at explaining the relationship between social class and mental disorder by distinguishing current social causes from predispositions that might lead to "drift" or social selection into circumstances of poverty.

These early studies of mental disorder in community populations suggested that the definition of mental disorder itself was a cause for concern. Epidemiological studies yielded substantial differences in prevalence rates of mental disorder from study to study. Kramer (1982) concluded that these differences stemmed less from community differences than from differences in the criteria used for defining a case of mental illness. This concern with case definition ultimately led to the development of a much more detailed and explicit set of criteria for diagnosis (DSM III, American Psychiatric Association, 1980). The development of the DSM III led, in turn, to efforts to develop the Diagnostic Interview Schedule (Eaton, Reigier, Locke, Taube 1981; Robins, Helzer, Croughan and Ratcliff 1981), a survey instrument that would allow lay interviewers to provide reliable diagnoses of survey respondents.

The sophistication of measurement of mental health in populations grew steadily in the post World War II era for both the well-being and mental disorder approaches. The increasingly powerful tools of modern survey research including probability sampling methods, interviewer training to increase the reliability and precision of respondent reports, and questionnaire methods for measuring subjective experience were critical to the development of an epidemiology of mental health and mental disorder. "First generation" studies of mental health in populations before World War II had largely been confined to the study of institutional records and were therefore subject to severe sampling biases in estimating the mental health of community

populations (Dohrenwend, 1998). A "second generation" of mental health surveys after the war increasingly relied on personal interviews with representative samples of community respondents, frequently supplemented by expert evaluation of the interview content. Social psychological studies of the mental health of populations also became increasingly sophisticated, developing psychometrically sound rating scales, coding systems, and multi-items indexes using multi-variate analytic techniques (Bryant and Veroff, 1982). The use of screening scales also became more common, sometimes providing a shorthand method of determining the presence or absence of a mental disorder, and in other cases serving simply as a composite assessment of psychological distress (Robins et al., 1981).

But, by the decade of the '70's, viewpoints had substantially diverged on the proper conceptualization and measurement of mental health. Researchers taking an epidemiological approach to the study of mental health in populations celebrated the growing sophistication in the measurement and diagnosis of cases of mental disorder. As one commentator observed, "One of the most important of these developments in the epidemiologic study of mental disorders was the publication in the *Diagnostic and Statistical manual* (DSM-III) of specific criteria for the diagnosis of mental disorders to promote more reliable and more specific assessment than had been the case previously (American Psychiatric Association, 1980)." (Regier and Kaelber, 1995, p. 135). At the same time, advocates of the study of psychological well being in populations were concerned with the distribution of well-being from a very different perspective: "To acknowledge that symptom scales are not adequate as screening devices for mental illness or psychiatric impairment in the community is not to say that they lack significant value as indicators of how Americans *view* their mental health. Symptom patterns are interesting and important indicators of psychological experience in their own right" (Veroff, Douvan and Kulka, 1981, p. 332).

These two perspectives reflected more than a technical difference of opinion about measurement. Instead they revealed a fundamental difference in theoretical commitment, disciplinary orientation, and preferred research strategy. Contributions to each stream of research have been made by members of the Survey Research Center at the Institute for Social Research and we will review those contributions in more detail below.

2.0 Population Studies of Well-Being and Life Satisfaction

Theory and research on psychological well-being have benefited from several distinct research traditions. First, research on life satisfaction had its origins in survey research at the Institute for Social Research (Andrews and Withey, 1976; Campbell and Converse, 1978; Campbell, Converse and Rogers, 1978; Gurin, Veroff and Feld, 1960; Veroff, Douvan and Kulka, 1982). This approach emphasized both cognitive elements and affective components of life satisfaction and focused on global indicators of life satisfaction and domain specific measurements of different aspects of life, such as work and family life. A second approach had its origins in the idea of affect balance (Bradburn, 1969). More recently an extension of this tradition (Diener and Diener 1996) has advanced an appraisal based theory of well being. Finally, life course developmental approaches to understanding well-being (Ryff and Keyes 1995) have emphasized changes in psychological well-being over the life course, and differences that emerge for men and women.

2.1 Americans View Their Mental Health

A Joint Commission on Mental Illness and Health was established by Congress in 1957 with the purpose of evaluating the available national resources for coping with the human and

economic problems of mental illness (Joint Commission, 1961). The Survey Research Center at the University of Michigan was asked to conduct an intensive interview survey with a national sample of normal adults to provide information on what the American people themselves thought of their mental health. The ISR researchers believed that a study focusing on the needs of people as they themselves understood them would inform efforts to improve mental health (Gurin et al 1960). The study was replicated in 1976 (Veroff, Douvan and Kulka, 1981; Veroff, Kulka and Douvan, 1981) and was also designed to assess subjective mental health and life experience of American adults.

2.1.1. Social change and shifts in the basis of well-being. The two decades between these two surveys of American psychological well-being were a time of great social change and upheaval. As Veroff, Douvan and Kulka (1982) observed, in addition to changes in communication technologies and transportation, the period was marked by dramatic cultural changes in values, in people's sense of community, their attitudes toward authority, and in political changes. The period was also marked by a psychological revolution, the beginning of a "therapeutic age" with increased acceptance of professional intervention for psychological problems and a growing belief that organized mental health services could improve well-being (Veroff et al. 1981).

Comparing the results of the 1957 and 1976 surveys of American mental health provides some striking contrasts. For example, Veroff et al. (1982) observed a shift from concern about social integration in one's family and community to one of personal integration and an increased focus on self expression in social life. By 1976 these changes permeated the whole society. In the mid seventies subjective mental health seemed to depend greatly on the nature of interpersonal relationships. While marital relationships were still a powerful source of support

and help for married people, Veroff et al. (1982) observed that formal mechanisms for dealing with problems appeared to increasingly supplant more ritualized forms of family and community support.

2.1.2 Patterns of Help Seeking in 1957 and 1976. An innovation introduced in the 1957 survey and carried over in the 1976 replication was inquiry into how Americans sought help in dealing with mental health problems and personal crises. These questions and others linking the two surveys yielded a range of important findings about patterns of help seeking and how they changed over these two decades in American history. For example, Veroff et al. (1982) found that over the 20 year period between the two studies the proportion of people actually using professional help for personal problems nearly doubled. By 1976 people were much more likely to seek help from a specialized mental health resource such as a psychiatrist, psychologist, marriage counselor, or other mental health professional.

Using results from the 1976 survey, Kulka, Veroff and Douvan (1979) also examined the relationship between social class and the use of professional help for personal problems. Overall, they found people were much more ready to refer themselves for help by 1976, and education had become much more influential in shaping people's willingness to define a problem in mental health terms. On the other hand, income continued to be an important influence on help seeking for personal crises and mental health problems. The emphasis on the process of help seeking pioneered in the Gurin et al. (1960) and Veroff et al. (1982) studies continues to be a critical resource for understanding the use of services and avenues to improvement of psychological well-being today.

2.1.3 Changing motives in American men and women. Forces for social change such as the civil rights movement and the women's movement had a powerful influence on American social history between 1957 and 1976. Among men, the achievement motive remained stable and the motivation for affiliation decreased, while power motives increased. For women, achievement motives had increased over the twenty year period as had power motives. Veroff et al. (1982) interpreted the results as indicating a change in the interpersonal orientation of American men, reflecting a shift away from interest in affilative ties and a stronger orientation to seeking influence over others. For women, changes in achievement motivation were thought to reflect an increased sense of identity through achievement, and the increased fear of weakness was thought to reflect women's increasing awareness about their relative status in comparison to men. Recent surveys such as the MacArthur Midlife Development in the U.S. Survey (MIDUS) (Kessler, Mickelson and Zhao, 1997; Lachman and Weaver, 1998) may continue to illuminate changes in the motives of American women and men two decades after the Veroff et al. (1982) survey.

2.2 National Survey of Black Americans

The National Survey of Black American (NSBA) was a landmark survey of African-Americans' mental health (Jackson, Brown, Williams, Torres, Sellers and Brown, 1996; Neighbors & Jackson, 1996). It drew on the heritage of earlier omnibus surveys of well being (Campbell and Converse, 1978) and the Americans View Their Mental Health Survey (Gurin et al 1960), and took a problem-focused approach to understanding how African-Americans cope with stress in their lives. Data were collected on the distribution of personal problems, psychological distress, feelings of happiness and satisfaction, and the way African-Americans cope with life challenges. The survey interviewed African-Americans at four points in time,

ending in 1992. This was a period of decreased social and economic resources and increased environmental stress for African-Americans. As Gurin pointed out (Gurin 1996), the study was conceptualized in the late '70s and did not attempt psychiatric diagnostic classification of its respondents. Rather, it focused on the life experience of the people being assessed and was oriented to mental health needs and patterns of help seeking. The survey relied on a lay black cultural perspective, and was innovative in that interviewers themselves were African-American. Neighbors and Jackson (1996) also note that most previous epidemiological investigations focused on simple comparisons between black and white populations and that this approach contributed to the mistaken impression that African-Americans were a monolithic group, and could only be understood in contrast to a white population.

Results from the National Study of Black Americans clearly demonstrated that African-Americans varied widely in their outlook and well being. Neighbors and Jackson (1996) reported a number of important changes in mental health among African-Americans over the course of the study including decreases in self-esteem and increases in the severity of personal problems, particularly among low income and less educated blacks. However, measures of life satisfaction did not follow this pattern of decline, and Neighbors and Jackson (1996) suggest that reports of life satisfaction may be part of a self-protective adjustment mechanism to cope with the structural changes that they were experiencing at that time.

2.3 Quality of American Life and Employment

Omnibus SRC surveys on the quality of American life conducted by Campbell, Converse, and Rodgers (1978) used survey methodology developed in the Survey Research Center to assess the quality of life across multiple spheres of experience including work, family, and community

life. In addition to providing an overview of the quality of life as experienced by Americans, these pioneering studies also ushered in major methodological advances in the development of social indicators of psychological and social well-being. One of the most important contributions by Campbell and his colleagues was the decomposition of well-being into cognitive and affective attributes. This development represented both a methodological and theoretical advance in thinking about the nature of psychological well-being. Based on this study, Andrews and Withey (1976) developed multiple strategies for measuring respondent well being. Andrews and Crandall (1976) also reported validity studies of well-being that showed high agreement among the multiple formats used for collecting information about well-being. This series of studies provided a powerful portrait of psychological well being under varying conditions of community life and work. In addition, the studies reflected changes in social conditions from the relatively quiescent fifties through the turbulent sixties and their aftermath in the seventies. As we will see, other traditions of research on psychological well being have recently emerged to complement these studies, focusing not only on social determinants, but also the personal and biological roots of mental health and disorder.

While not explicitly focused on mental health outcomes, the Quality of Employment Survey (QOE) (Kahn and Quinn 1970; Quinn et al. 1973, 1975, 1979) provided an overview of conditions of employment in the United States in 1969, 1973, and 1977. The study, developed by the U.S. Department of Labor and the ISR Survey Research Center was aimed at understanding the nature and distribution of working conditions and their effect on American workers. The survey was concerned with assessing work-related problems and the degree to which major demographic and occupational groups were affected by those problems. In particular, adequacy of income and fringe benefits, work related injuries and illness, excessive hours, age, sex and race discrimination, and unpleasant working conditions were inventoried. Declines in life and job

satisfaction were detected between 1969 and 1977, but it was unclear whether these were due to changes in the composition of the work force, changes in actual working conditions, or to rising expectations in the workforce over that period. Interestingly this study was undertaken at the point when women were entering the workforce in increasing numbers and major shifts in family life, leisure and other activities were also occurring. Dual earner households were becoming the modal family type, and the QOE investigation was an early indicator of a critical interplay between work and family life, a topic of compelling interest even now.

3.0 Population Studies of Mental Disorder

In stark contrast to the studies of psychological well being just described, population studies of mental disorder strongly emphasized psychiatric diagnosis and represent a second dominant theme in describing the mental health of populations. The disciplines most responsible for developing this approach have been psychiatry and epidemiology and their hybrid subdiscipline, psychiatric epidemiology. Rather than mapping the relationship between the social conditions of family and community life and psychological well being, population studies of mental disorder have been most concerned with establishing the criteria for defining a diagnostic case and estimating the prevalence of cases of psychiatric disorder in the population. An important rationale for obtaining accurate measures of prevalence of psychiatric disorder has been to determine the degree to which members of various diagnostic groups have access to and actually use mental health services. The Surgeon General's report (Satcher, 1999) clearly documents this as a critical gap in mental health services.

3.1 The Epidemiologic Catchment Area (ECA) Program

In 1978 the President's Commission on Mental Health (1978) identified the need to document the frequency of specific mental disorders and the use of mental health services in the United States. In response, the National Institute of Mental Health developed a program for the measurement of psychiatric diagnoses based on the criteria published in the Diagnostic and Statistical Manual (DSM.-III, American Psychiatric Association, 1980) to allow a more accurate estimate of the incidence and prevalence of major psychiatric disorders.

The NIMH Epidemiological Catchment Area (ECA) program (Eaton et al. 1981) was an outgrowth of this new emphasis and a response to the President's Commission. The ECA program required that non-clinicians conduct diagnostic interviews using a highly structured survey instrument. This requirement led to the development of the Diagnostic Interview Schedule (Robins et al. 1981) which could be administered by trained lay interviewers to identify individuals that met the criteria for specific psychiatric disorders. Multiple collaborating sites participated in the ECA study, and individuals both from the community and from institutionalized populations were interviewed.

Findings from the ECA program estimated that approximately 32 percent of adults in the United States reported symptoms that met the criteria for one or more psychiatric disorder during their lifetime (Robins, Locke and Regier 1991). Approximately 36 percent of men and 30 percent of women met criteria for at least one disorder. Only a quarter of persons with a disorder sought mental health or addictive services. This clearly represents a major underutilization of existing services or inadequate supply of affordable and accessible mental health and related services by those individuals diagnosed as having a psychiatric disorder. While the ECA took an important

step forward in measuring the prevalence of mental disorder, it was soon followed by other similarly motivated studies.

3.2 The National Comorbidity Survey (NCS)

The National Comorbidity Survey (NCS) (Kessler, McGonagle, Zhao, Nelson et al. 1994) is a landmark diagnostically oriented national survey of mental disorder. The website for the NCS is: http://www.hcp.med.harvard.edu/ncs/indexframe.htm. The NCS was the first survey to administer a structured psychiatric interview to a national probability sample of adults in the United States using a revised version of the Composite International Diagnostic Interview. As Kessler et al. (1994) notes, the NCS was designed to take the next step beyond the ECA study, and took advantage of three major advances. First, NCS diagnoses were based on the revised version of DSM III of the American Psychiatric Association and questions were included that allowed comparison with other diagnostic systems. Second, the NCS was designed not only to estimate the prevalence and incidence of psychiatric disorder, but also included a comprehensive risk battery including family history, questions about childhood and family adversity, measures of social support and social networks, and Research Diagnostic Criteria measures of parental psychopathology. Finally, while the prior ECA study involved collecting data from local samples, the NCS collected data from a national sample, and therefore could study regional variations and urban-rural differences in psychiatric disorders as well as the need for services. Such nationally representative samples can be of value in policy discussions of service needs for populations within the United States.

3.2.1 Prevalence of mental disorder. Nearly 50 percent of respondents to the NCS reported experiencing at least one disorder during their lifetime, and nearly 30 percent reported at

least one psychiatric disorder within the last 12 months. These findings suggest a very high national prevalence of mental disorder using DSM-III-R criteria.

Major depressive episodes, alcohol dependence, anxiety disorders, and simple phobia were among the most common disorders documented in the NCS. One of the most striking findings was the very high concentration of disorders in a small proportion of the population. More than half of all lifetime disorders occurred in the 14 percent of the population who had a history of three or more comorbid disorders. The NCS data also indicated that women had elevated rates of affective disorders and anxiety disorders, while men had elevated rates of substance use disorders and antisocial personality. Finally the NCS also reported low service utilization rates, with less than 40 percent of those with a lifetime disorder ever having received professional treatment.

3.2.2 Comorbidity. As the name of the survey implies, the National Comorbidity Survey was particularly focused on identifying individuals with more than one disorder. Kessler, Nelson, McGonagle, Edlund et al. (1996) report that the co-occurrence of the addictive and mental disorders is highly prevalent in the general population, and is usually due to the association of a primary mental disorder with a secondary addictive disorder. That is, among people with a history of both mental and addictive disorders, it is the mental disorder that usually occurs first and most typically, the mental disorder is a conduct disorder or an anxiety or affective disorder. Kessler et al. (1996) argue that one implication of these findings is that special assessment and treatment procedures are needed for persons who present co-occurring addictive and mental disorders when seeking treatment.

3.2.3 Childhood adversity and subsequent adult disorder. One of the most broadly accepted hypotheses in the developmental study of mental health problems is that childhood adversity influences adult mental health. The NCS study collected data on 26 forms of childhood adversity including parental divorce, maternal depression, rape, and other nonpersonal risks such as the experience of natural disasters. Although the NCS is a cross-sectional survey and must rely on retrospective reports, it still provides rich data to evaluate the hypothesis that there is a relationship between early trauma and later mental disorder. Findings from the NCS indicate that, in general, childhood adversity is strongly associated with the onset of disorder, but not with the persistence of disorders into adulthood (Kessler et al. 1997). The childhood adversities themselves tend to be highly clustered, and as expected, adult disorders also were clustered and comorbid. These findings suggest that there appears to be little specificity in the relationship between a particular form of childhood adversity and any particular adult disorder.

3.2.4 Patterns of service use and mental disorder. Both the need and use of services by persons with mental health problems was a major concern of the President's Commission on Mental Health more than two decades ago (1978) and the National Comorbidity Survey provides another answer to the question of the under use of services by persons with mental disorders. Kessler, Zhao, Katz, Kouzis et al. (1999) measured the proportion of respondents who reported a disorder within the previous 12 months and who also obtained some form of outpatient treatment for psychiatric problems in the general medical sector, specialty mental and addictive disorders treatment, help from human service organizations, and from self-help organizations. They were particularly concerned with whether a higher proportion of people entered treatment for disorders than in the earlier ECA study, and whether outpatient treatment itself was allocated differently across different service sectors than in the past. The NCS data showed that more serious and complex forms of disorder were more likely to involve service use and more serious disorders

involved treatment in more than one sector.

There is little doubt that the Diagnostic Classification of Mental Disorders in its successive editions and, in particular, the National Comorbidity Survey and its replication both in the United States and internationally establish the study of the prevalence of mental disorder as a prominent approach to understanding the mental health of populations.

4.0 Improving the Mental Health of Populations

The first half of the twentieth century ushered in psychological treatment in the form of psychoanalyses and other "talking therapies" as the recourse of a privileged few. More recently, treatment research has yielded a wide range of pharmacological and behavioral treatments that are effective for a variety of psychological disorders (Nathan and Gorman 1998). But providing access to these treatments on a large-scale remains a major challenge, and some observers (Albee and Gullotta 1997) doubt that a large enough group of professionals will ever exist to meet the projected need. The community mental health movement of the sixties and seventies in the United States (Denner and Price 1973; Price and Denner 1973) offered new optimism that these benefits could be made available not just to those privileged few, but to entire populations, particularly those made more vulnerable by lack of economic resources or other forms of adversity (Heller 1990). These public health oriented approaches were aimed at improving community members' access to services and strongly emphasized the value of mutual and social support in families, workplaces and communities (House 1981; House et al. 1988; House and Kahn 1985).

4.1 Population Needs Assessment to Improve Service Access

A primary goal of nearly every population study of mental health in the last half-century has been to assess mental health needs of the population under study with the ultimate goal of improving mental health. However, these studies have taken two distinctly different approaches to understanding mental health needs. One approach, beginning with the landmark study by Gurin, Veroff and Feld (1960) described earlier, has been to understand the help seeking process among persons experiencing a broad range of negative life events and adversity. Any of a variety of personal life events (health, employment, marriage) could trigger a help seeking effort that went through several distinct stages and might result in an encounter with a professional or nonprofessional. The second approach, primarily adopted by those interested in studying the prevalence of mental disorder, and exemplified in the National Comorbidity Survey described earlier, has been to ask about service utilization rates among persons with a diagnosed mental disorder. This second approach focuses on a much narrower segment of the population already manifesting a psychological disorder, and assumes that a failure to obtain treatment represents a gap in service utilization.

These two approaches provide strikingly different portraits of mental health needs. The approach adopted by those studying the help seeking process assumes that anyone in the population experiencing a personal crisis is in need of formal or informal help, whether or not they have a diagnosable disorder. The disorder oriented approach assumes that a diagnosable disorder, is a priori an indicator of need of mental health services.

4.2 Stressful Life Events as a Window on Risk Mechanisms and an Opportunity to Improve Mental Health

Both epidemiological and clinical research have demonstrated that a wide range of negative life events such as widowhood, loss of an intimate relationship, job loss, or illness can increase the risk of mental health problems (Kessler, Price & Wortman, 1985). The ISR Stress Model (Kahn 1981; Kahn and Byosiore 1992; Kahn and Sutton 1983) has emerged as an influential conceptualization of the processes by which social and physical stressors result in short-term responses that, in some cases, may lead to chronic health and mental health problems (see also Chapter 6). The model proposes that the strength of the causal links between initial stressors, short term responses and long term health and mental health consequences can be influenced by social, biological, chemical, and environmental factors. The ISR stress model also provides a framework for conceptualizing the critical leverage points for efforts to improve health and psychological well being. Indeed, the model has heuristic value both in clarifying the mediating mechanisms linking stressors to poor health and psychological disorder and also in identifying potential points of intervention to influence the development of disorder.

4.2.1 Job loss as a stressor. In what follows we focus on a particular negative life event, involuntary job loss, as an example of the stress process and as an opportunity for intervention both to test hypotheses about risk mechanisms and, at the same time to reduce the risk of mental health problems. In 1982 researchers at the Institute for Social Research at the University of Michigan began the Michigan Prevention Research Center, a new program of research on stress, coping and the mental health consequences of conditions of work and unemployment. The continuous program of research conducted over the last decade-and-a-half has produced information on the problems facing unemployed persons and their families, particularly those

associated with job-search (Caplan, Vinokur, Price, & van Ryn, 1989), economic hardship (Vinokur, Price & Caplan, 1996), and family difficulties (Howe, Caplan, Foster, Lockshin, & McGrath, 1995; Price, 1992).

Since the pioneering work of Jahoda, Lazarsfeld and Zeisel (1933), the psychological and social risks of job-loss have been documented for the unemployed person, and for the person's family (Dew, Penkower, & Bromet, 1991). Job-loss has adverse effects on social and psychological functioning Research indicates that job-loss leads to increased depressive symptoms (Kessler, House and Turner 1987; 1988), increased anxiety, decreased subjective perceptions of competence (Warr, Jackson, & Banks, 1988), and decreased self-esteem (Jackson & Warr, 1984), suicide attempts (Platt & Kreitman, 1985), and increased propensity for violent behavior (Catalano, Dooley, Novaco, Wilson, & Hough, 1993).

These outcomes of job loss are well documented, but examining job loss through the lens of the ISR stress model can shed additional light on questions of who might be most vulnerable, the risk mechanisms responsible for adverse mental health effects, and what interventions might reduce the vulnerabilities or alter the risk mechanisms responsible for mental health problems. In addressing the question of moderating influences on the relationship between employment status and mental health problems, for example, Price, van Ryn & Vinokur (1992) identified elevated but subclinical depressive symptoms and Vinokur, Schul, Vuori, & Price (2000) identified low levels of mastery as vulnerability factors predicting later more severe episodes of depression. In addition, Kessler, Turner & House (1988) and Vinokur, Price & Caplan (1996) have shown that, economic hardship and financial strain are the dominant mechanisms mediating the relationship between job loss and subsequent episodes of depression in individuals and couples. In short, when job loss results in a cascade of secondary economic stressors and strains it produces

negative mental health effects, and these are most severe among those low in mastery or with subclinical symptoms of depression.

4.2.2. Field experiments to test hypotheses about causal mechanisms and reduce the risk of mental problems. While these are formidable risks to mental health, persons experiencing job loss face yet another coping challenge: to conduct a job search that allows the successful transition to reemployment and a return to economic and family stability. The Michigan Prevention Research Center (MPRC) developed a program to aid unemployed workers to more effectively seek reemployment and cope with the multiple challenges and stresses of unemployment and job-search (Caplan, Vinokur, & Price, 1997; Price & Vinokur, 1995). The Jobs Program is a five session group learning experience based on behavioral science principles designed to teach participants job search skills and to cope effectively with the stressors of job search and unemployment. The website for MPRC is: http://www.isr.umich.edu/src/seh/mprc/. The randomized field experiments designed to examine the impact of the program on unemployed workers may be regarded as experimental tests of hypotheses regarding: 1) the causal role of employment status on mental health, 2) the malleability of vulnerability factors such as depressive symptoms, 3) the protective value of coping skills in dealing with the challenges and setbacks in the job search process, and 4) the causal role of economic hardship mediating the relationship between employment status and depression.

The impact of the JOBS program on mental health and other outcomes has been studied in replicated randomized field trials involving unemployed workers and their partners (Caplan, Vinokur, Price, & van Ryn, 1989; Vinokur, Price, & Schul, 1995). The program returns unemployed workers to new jobs more quickly, produces reemployment in jobs that pay more

(Vinokur, van Ryn, Gramlich, & Price, 1991), and reduces mental health problems associated with prolonged unemployment (Vinokur, Price, & Schul, 1995). A long term follow up study (Vinokur, Schul, Vuori and Price, 2000) indicates that the program prevents the occurrence of major depressive episodes up to two years later. These replicated findings strongly support the hypothesis that employment status has a causal impact on mental health. In addition, the program is particularly effective in preventing depression among those most vulnerable to mental health problems (Price, van Ryn, & Vinokur, 1992; Vinokur, Price & Schul, 1995), supporting the hypothesis that this vulnerability factor is malleable, and that reducing its magnitude is consequential in protecting mental health. In addition, the program has been shown to inoculate workers against the adverse effects of a second job-loss (Vinokur & Schul, 1997). In comparison to control group counterparts, program participants who regained employment and then suffered a second job-loss did not experience the same discouragement and increased depressive symptoms that afflicted control group participants who had the same labor market experience. It appears that the program psychologically inoculates participants against subsequent job-loss setbacks because they gain an enhanced sense of mastery over the challenges of job-search (Vinokur & Schul, 1997). Finally, Vinokur and Schul (1997) have shown that the relationship between reemployment and improved mental health is mediated by reductions in financial strain. That is, in a randomized trial, where causal inference can be more confidently made, regaining employment can be seen to exert its positive effects on mental health through a reduction in financial strain.

It is possible that a wide variety of negative life events are susceptible to field experimentation with theory driven interventions that can simultaneously illuminate risk mechanisms and provide prototypes for preventive interventions. Indeed, a research program for the development of risk reduction strategies in mental health, with the ultimate aim of large scale

efforts to improve the mental health of populations has been recommended by the Institute of Medicine (Mrazek &Haggerty, 1994).

4.3 Risk Reduction Strategies to Improve the Mental Health of Populations

In 1992 the Institute of Medicine convened a Committee on Reducing Risks for Mental Disorders (Mrazek & Haggerty, 1994) to assess the feasibility of risk reduction as a means of preventing the development of mental disorders. Their charge was to review the status of current research on the prevention of mental illness, to review existing federal efforts and to provide recommendations on policies and programs of research support leading to a prevention research agenda. In conducting their study, the Committee identified a range of illustrative preventive programs across the life course that had already demonstrated effectiveness in reducing the risk of mental disorder (Price, Hawkins & Hamburg, 1994). Proven risk reduction strategies included prenatal and early infancy programs, early intervention for preterm infants, programs to improve family management practices, preschool programs to reduce the risk of academic failure, childhood bereavement programs, alcohol education projects for adolescents, programs designed to enhance couple relationships, programs to cope with unemployment and programs for the elderly aimed at reducing the risk of depression in widowhood. Since the time of the IOM Report, additional reviews have been conducted of literature in the field, adding convincing evidence (Durlak and Wells, 1997) that preventive interventions aimed at reducing the risk of mental disorder were not only possible, but had demonstrated their effectiveness across a wide range of ages and risk groups.

5.0 Looking Ahead: Understanding and Improving the Mental Health of Populations in the 21st Century

The last half century of survey research to understand and, ultimately improve the mental health of populations has undergone a series of sea changes. Where there once were several competing theoretical paradigms implicating dynamic, social, learning and biological mechanisms (Price & Lynn, 1986) that each claimed etiological preeminence, now many accounts draw on biological explanations. Beginning in a growing postwar awareness of the power of social environments and social change to shape well being and illness, the century has ended with the biological organism in the foreground (Dohrenwend, 1998). In what follows we briefly note emerging developments in the study of the mental health of populations that are likely to influence the next half-century of research. In particular, we will consider: 1) new developments in the measurement of psychological well-being and disorder, 2) research implicating important biological influences on both psychological well-being and disorder.

5.1 New Directions in Measurement of Psychological Well-Being and Mental Disorder

Early studies by Bryant and Veroff (1982) used data from the 1975 American's View Their Mental Health survey to conduct studies of the structure of psychological well-being and identified several distinct underlying dimensions. More recently, Ryff (1995) and Ryff and Keyes (1995) have incorporated a number of theoretical traditions into an empirically based model of psychological wellness based on a national probability sample of United States adults. Ryff (1995) and her colleagues identified self acceptance, positive relations with others, a sense of autonomy, environmental mastery, a sense of purpose in life and a feeling of personal growth as fundamental dimensions of well-being.

Diener and Diener (1996) and Myers and Diener (1995) have asked what research reveals about the characteristics of happy people. They suggest that self-esteem, a sense of personal control, optimism, and extroversion are critical ingredients for happiness. Indeed, Myers and Diener argue that knowing a person's age, sex, race or income tells us little about their happiness. Better clues come from individual psychological traits, and whether or not people have a supportive network of close relationships. Looking at the question across cultures, they argue that living in a culture that offers positive interpretations of daily events, being engaged by work and leisure, and having a faith that entails hope and purpose are also critical ingredients of happiness.

The last two decades have also produced substantial gains in the measurement of psychological disorder. The National Comorbidity Study (Kessler et al. 1994) and now more recently, the Composite International Diagnostic Interview (CIDI) is now used in a wide range of international studies. The World Health Organization is sponsoring a general population epidemiologic survey of mental illness, substance abuse, and behavioral disorders in 12 countries titled, "The World Mental Health 2000 Study (WMH2000). The study, coordinated by Ustun and Kessler, (1999) will obtain cross-national information about the prevalence and correlates of mental disorder, substance abuse and behavioral disorders to improve assessment of the global burden of these disorders, to study patterns of treatment, and to pinpoint modifiable barriers to obtaining treatment. In addition, previous studies such as the National Study of Black Americans (Neighbors and Jackson, 1996; Jackson et al. 1996) will, in a new version called the National Survey of African-Americans, compare a national sample of non-Hispanic Blacks of Caribbean descent and non-Hispanic Whites with a National Sample of African-Americans. As Jackson observes (1996) these samples will allow investigation of racial and ethnic differences using survey instruments measuring psychological distress and mental disorders based on the

Composite International Diagnostic Interview (CIDI). At the same time, international studies are emerging including a study by Williams & Williams-Morris (1998) on the effect of torture on mental health in South Africa.

5.2 Biological Influences on Well-being and Mental Disorder

While early postwar studies of the mental health of populations emphasized the social determinants of well being, more recent research has taken possible biological origins of mental health as their point of departure. For example, Lykken and Tellegen (1996) studied the subjective well-being of a birth-record based sample of several thousand middle-aged twins. They report that neither socio-economic status, family, income, educational attainment, marital status nor religious commitment accounted for more than 3 percent of the variance in well-being. Lykken and Tellegen (1996) concede that while positive and negative life events do produce changes in happiness, the effects appear as fluctuations around a stable temperamental "set point" for the individual. They note that the well-being of one's identical twin, either now or ten years earlier, is a far better predictor of one's own happiness than one's own educational achievement, income or status and they conclude that variations in well-being are determined by "the great genetic lottery that occurs at conception". (p. 189).

Similarly, the biological roots of psychological disorder have been explored in a variety of genetically informative research designs and have begun to change our assumptions about the etiology of important forms of disorder such as depression. Recent twin studies of psychological disorder that directly compare the concordance rates of genetically identical monozygotic with dizygotic twins have produced compelling evidence for genetic influences on depression. Kendler, Neal, Kessler and Heath (1993) have presented an integrated etiological model for the

prediction of episodes of major depression. They report that 60 percent of the explained variance in depression was due to direct effects of genetic factors, and the remaining 40 percent was mediated by the history of prior depressive episodes, stressful life events and neuroticism. Interestingly, negative life events appear to have higher concordance rates in monozygotic than in dizygotic twins, and Kendler has reported that genetic factors account for 40 to 75 percent of the variation in social support in twin pairs. Although these findings may in part reflect cumulative effects over the life course or could reflect confounding period and genetic effects, these are striking findings. They suggest that factors influencing mental health previously thought to be entirely due to the social environment such as the influence of negative life events and social support may be determined in part by genetic factors.

6.0 Conclusion

While these studies are only examples from the emerging research evidence, they clearly signal the need for more sophisticated models of the combination of biological factors and environmental adversity in the expression of psychological well-being and disorder (Dohrenwend 1998; Kendler, Neale, Kessler and Heath 1993). It is now increasingly clear that individuals, through their traits and vulnerabilities, evoke responses of support or withdrawal, and actively select, and are selected into niches of adversity or nurturance that are consequential for their well-being and psychological disorder. The causal pathways remain to be understood, and we will need advances in the measurement of life events, in genetically informative designs to study individual and family life course, and the introduction of biological measures to complement our capacity to measure environmental adversity and support. Beyond these challenges lies the opportunity to design social and biological interventions that can simultaneously clarify the nature of causal pathways between adversity and disorder and offer models of humane intervention to a society continuously in need of them.

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