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Psychiatric Disorders in Urban Settings

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PSYCHIATRIC DISORDERS IN URBAN SETTINGS[1]

The cities are bearing the brunt of technological and social dislocations in modern society. They cannot house, let alone educate, and in some cases they are not even able to feed or provide adequate sanitation for their populations. They are crime ridden and sometimes riot torn. So goes the story from New York to Tokyo with stops around the world. What are the consequences for the people who live in these disturbed centers of modern societies?

One answer is suggested by psychiatric critics of the social order such as Lawrence K. Frank, who wrote in 1936:

> Our so-called social problems . . . are to be viewed as arising from the frantic efforts of individuals, lacking any sure direction and sanctions or guiding conception of life, to find some way of protecting themselves or of merely existing on any terms they can manage in a society being remade by technology. Having no strong loyalties and no consistent values or realizable ideals to cherish, the individual's conduct is naturally conflicting, confused, neurotic and antisocial. . . . (pp. 339-340)

Our aim in this chapter is to examine the empirical evidence bearing on such speculations with a view to analyzing the theoretical, methodological, and practical issues posed.

Some Incongruities between Speculation and Fact

Popular and influential speculations such as Frank's have led to a number of studies designed to put them to the test. One is the investigation by Goldhamer and Marshall of hospital first admissions between 1840 and 1940 in the state of Massachusetts. As Glazer noted in an essay introducing their work,

> It would appear a truism to assert that man, subjected to an increasingly inhuman (or at any rate nonhuman) environment, increasingly breaks down under the strain. And indeed, all around us are huge installations which we know house many thousands of the mentally disordered, and the budgets of state governments groan under the pressure of maintaining them and building more. Surely all this, if not new, is far more characteristic of our present-day lives than of life a hundred years ago. But *are* we sure?

The finding of Goldhamer and Marshall that the rates of functional psychoses of the early and middle years had not varied over a hundred-year period would seem to indicate that in fact we cannot be sure that a change has occurred. Their finding is restricted, however, to treated rates and does not include the full range of psychiatric disorders. Moreover, Goldhamer and Marshall raised the possibility that the conditions of urban life had been sufficiently established by 1840 so that they would have had to go back another hundred years to test the effects of the most important changes. Unfortunately, such data are not available.

Nevertheless, Goldhamer and Marshall's findings are surprising, in part because they are based on treated cases. It has long been known that rates of

treated psychiatric disorder vary with the availability of treatment facilities, which surely must have increased from 1840 to 1940, and with public attitudes toward their use. In fact, conclusions about the traumatic psychiatric effects of industrialization have been criticized for their reliance on treated rates of disorder, usually treatment in mental hospitals. Though such investigations typically show much higher rates of first admissions to mental institutions for persons residing in urban than for persons residing in rural areas, Mott and Roemer noted:

> Not only are mental hospital beds considerably less available to rural people, but rural attitudes are such that even with mental institutions available, the rural family is more typically opposed to "committing" one of its members. The social milieu in rural areas, in fact, not only discourages institutionalization of mental cases but actually creates less urgent need for it. Even when conclusions are drawn from mental hospital admissions within one state, therefore (with the same facilities supposedly being available for both rural and urban residents), one cannot be impressed with findings of lower rural mental disease rates, (pp. 140-141)

Accordingly, Mott and Roemer suggested that World War II Selective Service statistics on psychiatric rejections based on actual examinations of potential inductees provide more suitable evidence. On the basis of their analysis of some of this evidence, they concluded that "Selective Service examinations in this country, in fact, have shown the highest rates for most mental disorders to occur in the most rural communities. Star and Ginzberg, Anderson, Ginsberg, and Henna showed, however, that such comparisons on the basis of national Selective Service statistics are extremely difficult to

interpret, owing to the vastly different diagnostic procedures and administrative practices applied at the various induction stations as well as the strong influence of educational level on the rejection rate.

The problem of unreliability in diagnostic standards is less prominent in a study of one particular induction station than in comparisons across induction stations. Thus, by investigating men examined at the Boston Armed Forces Induction Station from both rural and urban communities during the winter, spring, and summer months of 1941 and 1942, Hyde and Kingsley provided some useful data on the problem that suggest that rural and urban differences are vastly more complicated than was suggested by Mott and Roemer. Hyde and Kingsley found that Boston, the largest city in the area, had the highest rejection rates for total psychiatric disorder and for the sub-types of chronic alcoholism and psychopathic personality. The most rural areas (described as semirural by the investigators), however, were a close second in total rates and highest in rates of mental deficiency, psychoneurosis, and psychosis. Intermediate on most rates were the moderate sized cities, small cities, and towns, which were categorized by the investigators as of generally higher socioeconomic level than either Boston or the semi-rural communities in these comparisons. As Hyde and Kingsley emphasized, however, the population served by the Boston induction station was predominantly urban. The rural versus urban contrast may not, therefore, be as sharply drawn in this study as we would like.

A more clearly rural setting provided the basis for a study by Eaton and Weil, who noted the views of a famous skeptic: “In some happy corners of the earth, they say, where nature brings forth abundantly whatever man desires, there flourish races whose lives go gently by, unknowing of aggression or constraint. This I can hardly credit; I would like further details of these happy folk.” Their own review of the existing literature led Eaton and Weil to agree with Freud’s skepticism and to suggest that speculations associating simple rural life with good mental health were based on anecdotal observations of primitive societies that might be psychiatrically incomplete. To provide more systematic data they set out to study the Hutterites, a group with a strong reputation for mental health based on just such anecdotal accounts.

The Hutterites are an ethnic enclave of about 8,500 persons who have lived for more than ninety years in the United States and Canada. They comprise a religiously oriented and self-sufficient communal society with a secure agrarian economy. This extraordinarily stable Hutterite society has been highly effective in providing cradle to grave support for its members. Has it also protected them from psychiatric disorder?

On the basis of direct interviews and key informant reports from members of the Hutterite population, Eaton and Weil arrived at a rate of psychosis that ranked the Hutterites as third highest of ten populations with which they were compared, higher, for example, than the urban and far from

affluent eastern health district of Baltimore. Noting that population comparisons are difficult to make given the methodological problems involved in epidemiological studies, the investigators concluded cautiously that the "findings do not confirm the hypothesis that a simple and relatively uncomplicated way of life provides virtual immunity from mental disorders."

Inkeles and Smith reached a far less conservative conclusion on the basis of their recent study of young male farmers, industrial workers, and urban nonindustrial workers in six countries: Argentina, Chile, East Pakistan, India, Israel, and Nigeria. Drawing from batteries used in a number of well-known previous studies conducted mainly in the United States, these investigators obtained a "psychosomatic symptom test" to measure "mental health" or "adjustment." Their results led them to conclude:

> We believe . . . that . . . the theory which sees the transition from village to city and from farm to factory as inherently deleterious to mental health must be, if not wholly discarded, at least drastically reformulated. . . . Our investigation suggests that in developing countries . . . salubrious experiences are no less enjoyed by those who have moved to the city and have taken up industrial employment than by those who continue to pursue the bucolic life of cultivators in the bosom of their traditional villages.

The generalizations we can make from this study are limited, however, since the psychosomatic symptom test used to measure mental health is hardly adequate to measure the full range and variety of types of psychiatric disorder. Moreover, the samples studied do not represent the populations of

the rural and urban communities from which they were drawn. They are instead work-site samples of young men who, as the authors pointed out, were all adapted in the sense that they held steady jobs. Results from such selected samples, as the work of Indik, Seashore, and Slesinger with a similar symptom inventory suggests, cannot be extrapolated to general populations. It seems possible, for example, that in focusing on work-site samples of employed persons, Inkeles and Smith missed the most pathogenic aspects of urban living.

As possible indication of the nature of these more pathogenic features, consider the picture portrayed by Calhoun's experiments on the effects of crowding on rats. Calhoun observed closely a phenomenon that is "the outcome of any behavioral process that collects animals together in great number"; it is called a "behavioral sink." In his own experiments, this sink took the form of an especially high concentration of animals around a particular (but not the only) food source that was located in one of the central pens in which the experimental animals were placed and in which they bred.

As Calhoun noted, "The unhealthy connotations of the term are not accidental: a behavioral sink does act to aggravate all forms of pathology that can be found within a group." Thus, for example, "Females that lived in the densely populated middle pens became progressively less adept at building adequate nests and eventually stopped building nests at all." Some males

were “completely passive and moved through the community like somnambulists. They ignored all the other rats of both sexes and all the other rats ignored them.” And still another type of male developed who took no part in the general status struggle but functioned as a kind of oversexed rapist who also engaged in cannibalistic behavior. In general, the effects of crowding, most prominent in the behavioral sink, were to disrupt “vital modes of behavior such as courting of sex partners, building of nests and the nursing and care of the young.”

How accurate, however, are these investigations of rats as experimental analogues of major conditions and consequences of modern urban living? Some results from a study of “the city that has probably the highest residential densities ever known in the world suggest that the nightmare vision Calhoun’s experiments call forth is more fantasy than fact when applied to human beings. The city is Hong Kong and the study, recently reported by Mitchell, is based on three large-scale sample surveys of both adults and children. Mitchell’s description will give you some idea of the meaning of the word “density” as applied to the inhabitants of dwelling units in Hong Kong:

> The median size dwelling unit in the urbanized areas of the colony has 400 square feet, and the median square feet per person is 43. Thirty-nine percent of the Hong Kong respondents report that they share their dwelling unit with non-kinsmen; 28 percent sleep three or more to a bed; 13 percent sleep four or more to a bed. . . . High density dwelling units

could be labeled “poor housing,” for they are the most likely not to have tap water, flush toilets, and cross ventilation. They are also most likely to have only one room per unit, to have ten or more people in the unit, and to have two or more unrelated families sharing the same unit.

In striking contrast to what might be expected on the basis of sheer extrapolation from Calhoun’s results, Mitchell found no relationship between density per se and measures of strain consisting of a battery of psychosomatic symptoms similar to those used by Inkeles and Smith and items on impairment of functioning focusing on withdrawal from family roles and withdrawal from work roles. He concluded that after suitable controls are introduced on such factors as income, density within dwelling units shows only a limited range of effects. Moreover, these effects do not appear to extend to those symptom and impairment data he collected that were most directly relevant to measuring psychiatric disorders. Let us note, for future reference, however, that among the limited range of effects Mitchell reported is one bearing on parental supervision of their children. The higher the density in the dwelling unit, the less the tendency for the parents to discourage their children from leaving the house. The side effect of this is to reduce the parents knowledge of and control over their children.

Rates of Psychiatric Disorders in Rural and Urban Settings

Whatever their limitations, the investigations described above are quite sufficient to give us pause about the accuracy of popular speculations linking

urbanized, technologically oriented social settings to psychiatric disorder.

Do we have, then, any other evidence with which to resolve the questions of fact these speculations pose? Fortunately, over the last half century there have accumulated forty epidemiological studies carried out in a variety of social settings in America, Europe, Asia, and Africa with the aim of counting not only treated cases but also untreated cases of a wide range of psychiatric disorders.

In an earlier analysis we found that these rates, most of which represent prevalence for a limited time period, ranged from under 1 percent to 64 percent in the communities studied. Inquiry into what could account for variation of such magnitude produced a series of disconcerting answers. There were no consistent differences in total prevalence rates according to the geopolitical area of the world nor, within geopolitical areas, according to urban or rural study site. Rather, the variability was found to be related to differences in thoroughness of data collection procedures and, even more, to contrasting conceptions of what constitutes a case of psychiatric disorder.

Given the major methodological differences that these variable rates reflect, direct comparison of the rates obtained by different investigators is frustrating and uninformative. It is possible, however, to compare different studies in terms of the relationships between disorder and various factors,

such as age, sex, and social class. In this way, in previous analyses we found consistent relationships between rates of overall psychiatric disorder and social class; we also found consistent relationships between various subtypes of disorder and sex as well as social class. We will see, then, whether further analyses of this type will enlighten us about rural versus urban differences.

Seven of the epidemiological investigators or teams of investigators reported data from both rural and urban segments of the populations they studied, with two reporting data for two settings each divided into rural and urban portions. Thus, we can look at nine comparisons of rural and urban rates. As Table 29-1 shows, in one comparison the total rate is higher in the rural setting; there is one tie; and in the remaining seven comparisons the urban rate is higher than the rural rate. Note, however, that most of the differences are not large.

Table 29-2 gives us some indication of why the rural-urban differences in total rates are generally small. While some types of psychiatric disorder tend to be more prevalent in urban settings, there are others that tend to appear more frequently in rural settings. That is, total rates for all psychoses combined tend to be higher in the rural than in the urban area in these comparisons, and this appears to be so also for the manic-depressive subtype though not for schizophrenia, which may be equally frequent in rural and

urban settings. By contrast, the rates for neurosis and personality disorder are higher in urban than in rural settings in all but one comparison for each type of disorder.

Table 29-1. Percentage of Psychiatric Disorder Reported for Investigations Including Both Urban and Rural Study Sites

URBAN	RURAL	URBAN MINUS RURAL	AUTHOR(S)
0.8	1.7	-0.9	Kato
1.1	1.1[a]	0.0	Lin
1.11	1.03	+ 0.08	Kaila (study 2)
1.28	1.07	+ 0.21	Kaila (study 1)
3.0[b]	2.7[b]	+ O.3	Tsuwaga et al., Akimoto et al. [c]
13-5	11.7	+ 1.8	Piotrowski et al. (Ciechanow)
45.0	40.0	+ 5.0	A. H. Leighton et al.
18.1	13.0	+ 5.1	Piotrowski et al. (Plock)
34-1[b]	20.2[b]	+13.9	Helgason

a Rate for more rural of two relatively rural areas studied.

b Calculated by B. S. Dohrenwend.

c Studies carried out by overlapping teams from the Neuropsychiatric Department of Tokyo University.

Table 29-2. Percentage Rates According to Diagnostic Category from Studies Reporting Results for Roth Urban and Rural Sites

	URBAN

	URBAN	RURAL	MINUS RURAL	AUTHORS
	0.00	2.00	-2.00	A. H. Leighton et al. [a, b]
	5-29 [c]	6.50 [c]	-1.21	Helgason [d]
	0.77	0.99	-0.22	Piotrowski et al. [a] (Ciechanow)
Rates of Psychosis	0.37 [c]	0.49 [c]	-0.12	Tsuwaga et al., Akimoto et al. [e]
	0.27 [c]	0.34 [c, f]	-0.07	Lin
	1.01	0.65	+0.36	Kaila (study 1)
	0.80	0.31	+0.49	Piotrowski et al. [a] (Plock)
	0.00	1.00	-1.00	A. H. Leighton et al. [a, b]
	0.36 [c]	1.34 [c]	-0.98	Helgason [d]
Rates of Schizophrenia	0.21	0.18 [f]	+0.03	Lin
	0.39	0.21	+0.18	Tsuwaga et al.,98 Akimoto et al. [e]
	0.64	0.38	+0.26	Kaila (study 1)
	0.07 [c]	0.29 [c]	-0.22	Tsuwaga et al.,98 Akimoto et al. [e]
Rates of Manic-Depressive Psychosis	2.18 [c]	2.34 [c]	-0.l6	Helgason [d]
	0.05	0.0 7 [f]	-0.02	Lin
	0.27	0.25	+0.02	Kaila (study 1)
				Tsuwaga, Akimoto et

	0.19 [c]	0.25 [c]	-0.06	al. [e]
	0.18	0.07	+0.11	Lin
Rates of Neurosis	7.13	5.29	+1.84	Piotrowski et al. [a] (Ciechanow)
	9.28	7.14	+2.14	Piotrowski et al. [a] (Plock)
	77.00	71.00	+6.00	A. H. Leighton et al. [a, b]
	14.18 [c]	6.30	+7.88	Helgason [d]
	0.00	7.00	-7.00	A. H. Leighton et al. [a, b]
	0.14 [c]	0.07 [c, f]	+0.07	Lin
Rates of Personality Disorder	0.85 [c]	0.25 [c]	+0.60	Tsuwaga et al.,98 Akimoto et al. [e]
	1.25	0.65	+0.60	Piotrowski et al. [a] (Ciechanow)
	3.04	0.62	+2.42	Piotrowski et al. [a] (Plock)
	13.61 [c]	4.62 [c]	+8.99	Helgason

a Age range limited.

b Figures for symptom patterns that may or may not be cases.

c Calculated by B. S. Dohrenwend.

d Life-time prevalence given urban or rural residence at end of observation period.

e Studies carried out by overlapping teams from the Neuropsychiatric Department of Tokyo University.

f Rate for more rural of two relatively rural areas studied.

g Not including alcoholism and drug addiction for which rates are calculated separately by Helgason; the rate for alcoholism and drug addiction is also greater in urban than rural residents.

These results are obtained, of course, on the basis of only nine rural versus urban comparisons and can hardly be considered representative in any systematic sense of the term. Yet the studies date from 1942 to 1969; take place in Europe, Asia and Africa; involve cities as different as Tokyo, Reykjavik (in Iceland), and Abeokuta (in Nigeria); and report overall rates of disorder ranging from 0.8 percent to 45 percent. The consistency in direction of most of the urban-rural differences reported in these studies, despite the diversity of time, place, and method of assessing disorder they represent, suggests that the results be taken seriously. On the basis of this evidence—and it is the best we have available—there appears to be a tendency for total rates of psychiatric disorder to be higher in urban than in rural areas, owing at least in part to an excess of neurosis and personality disorder in the urban areas. If we accept these results at face value, our next question is why this should be so.

The Issues of Explanation

Although the environment of the city dweller is often harsh and

sometimes threatening, we cannot, without first inquiring into other possibilities, infer that the relatively high rates of psychiatric disorder in urban settings are a consequence of these unfavorable environmental conditions, as some social critics have suggested. Consider, for example, a line of argument that provides quite a different explanation. It starts by noting that cities also provide concentrations of industry and commerce, wealth and power, art and entertainment that make them magnets for rural people. Migrants seeking greater opportunity, challenge, or perhaps, anonymity than rural environments provide are drawn to the city in large numbers. Perhaps, then, they bring with them the psychiatric problems that we find to be relatively concentrated in urban areas rather than developing them in reaction to the urban environment.

Straightforward evidence to resolve this issue is not available. That is, no one has yet surveyed members of a rural population for evidence of psychiatric disorder, or perhaps a proneness to develop such disorder, at one point in time and then followed this population to determine which members migrated to urban areas and what the migrants' impact was on the rates of disorder in the areas to which they migrated. Attempts to solve this problem have largely relied, then, on two types of studies that provide less direct evidence.

1. The first are cross-sectional studies comparing rates of treatment for

psychiatric disorder among migrants as against non-migrants, with the latter group drawn either from the area from which the migrants emigrated or from the area into which the migrants immigrated. Most of these studies have not focused on rural migration to cities but deal rather with the issue of whether migration is in general a selective process with respect to treated psychiatric disorder. Murphy's comprehensive review of these studies led him to conclude that the relatively high rates of hospitalization among migrant populations reported in early studies, for example, 0degaard's pioneering investigation of Norwegian migrants to Minnesota, were by no means universal. The findings of these studies taken together argue, therefore, against any generalization concerning the psychiatric characteristics of migrants as a group.

Furthermore, more recent work by 0degaard dealing specifically with rural to urban migration within Norway failed to establish any clear conclusions because of problems involved in interpreting the meaning of hospital admissions. 0degaard noted that the excess of hospitalization among migrants to Oslo resulted at least in part from the tendency to hospitalize cases of senility, general paresis, and alcoholic psychoses that might have been kept in homes in a rural area. Similarly, Astrup and 0degaard, finding a relative increase over time in rate of first admissions of migrants compared to non-migrant residents of Oslo and Bergen, wrote

> One might conclude that the immigration to the larger cities has changed in character, but there is nothing to lend positive support to this theory. Most likely the explanation is that since 1930 the hospitalization of senile psychoses has increased rapidly in Oslo and to some extent in Bergen, while in the (less urban) remainder of the country this increase has been much less marked.

Thus, these cross-sectional comparisons of migrants and non-migrants have yielded no definite conclusions about the psychiatric differences or similarities of the two groups.

2. A study by Helgason of untreated as well as treated psychiatric disorder in the life histories of an age cohort drawn from the population of Iceland overcomes some of the difficulties of the cross-sectional studies. In this investigation, Helgason utilized the excellent records available in Iceland to reconstruct migration histories. Thus, he was able to compare the life expectancy of morbidity in non-migrants and in two migrant groups: those who had moved to Reykjavik, the capital and only city in Iceland, and those who had moved elsewhere within Iceland.

His results for psychoses indicate no difference in the life expectancies for this type of disorder in the two migrant groups. Since both migrant groups have lower rates than non-migrants, moreover, these results do not suggest that psychotics selectively migrate from country to city. By contrast, the life-time expectancies for neuroses, for alcoholism and drug addiction, and for psychopathic personality are all higher in the group that migrated to

Reykjavik than in the group that migrated elsewhere within Iceland, and in general the figures for the Reykjavik group are higher than those for the non-migrant group as well. These results suggest then, the possibility of selective migration to the city among neurotics and those with personality disorders. It is, of course, also possible to infer that the city environment induced these conditions in the migrants.

Helgason's results, based on his classification of the subjects according to where they were living at about the age of fourteen, provide some additional information on this point. In every comparison those who were resident in urban communities at about fourteen had higher life expectancies for neurosis and personality disorders than those who lived in rural communities at this age, and these higher rates for early urban dwellers were generally of the same magnitude as the rates for migrants to Reykjavik. Since the residence of youngsters of age fourteen would not have been selected in terms of their own personalities or predispositions, these results suggest that the excess of neurosis and personality disorders in urban areas was not due solely to selective migration on the part of those who had become predisposed to the disorders in rural areas. On the contrary, the most parsimonious explanation of Helgason's results for neurosis and personality disorder is that they are primarily induced by stresses in the urban environment. At the same time, it remains possible to explain these results in terms of a genetic predisposition to neurosis or personality disorder that

leads to migration to the city and is passed on to offspring who are raised there. Thus, while Helgason's results are suggestive, they do not entirely resolve the issue of the relative importance of the urban environment, on the one hand, and of genetic inheritance, on the other, in the etiology of these disorders. Moreover, there is some question as to whether the results of Helgason's study can be generalized to more populous and heterogeneous societies, even though they are consistent with our findings in Table 29-2, showing higher rates of neurosis and personality disorders in urban areas. Are there further clues from other epidemiological studies that will help unravel this puzzle?

Social Class and Psychiatric Disorder in Urban Settings

In a previously published analysis of the epidemiological studies, in which attempts have been made to count untreated as well as treated rates of disorder, we reported that the most consistent finding was an inverse relationship between overall rates and social class. In twenty of the twenty-five investigations that included data on social class, the highest rate was in the lowest social stratum. Some of these studies were done in urban settings and some in rural. It is possible, therefore, to inquire whether there are differences in the nature of this relationship in rural and urban areas.

Table 29-3. Epidemiological Studies Classified According to Urban or Rural Study

Site and Relation of Rates of Overall Psychiatric Disorder to Social Class[a]

Maximum in Lowest Social Class	Minimum in Highest Social Class	Percentage		d	Authors	Number of Studies
		Minimum	Maximum			
		URBAN STUDY SITES				
Yes	Yes	2.7	4.0	1.3	Dube[b]	10
		0.7	3.7	3.0	}Cohen et. al.[c]	
		1.1	6.6	5.5		
		14.3[d]	20.5[d]	6.2	Hare and Shaw[e]	
		30.0	37.8	7.8	Taylor and Chave[f]	
		7.3	16.6	9.3	Hyde and Kingsley	
		17.4[d]	29.4[d]	12.0	Bellin and Hardt[g]	
	5.0	17.0		12.0	Gillis et al.	
		1.6	15.1	13.5	}Gnat et al.[h]	
		6.0	25.4	19.4		
		12.5	47.3	34.8	Srole et al.	
		—	—	—	Cole et al.[i]	
Yes	No	2.3[d]	2.9[d]	0.6	Tsuwaga et al.[j]	1
No	No	6.2	13.6	7.4	Pasamanick et al.	1
		RURAL STUDY SITES				

Yes	Yes	0.8	0.9	0.1	Hagnell[g,k]	4
		1.4[d]	3.2[d]	1.8	Akimoto et al.[j]	
		19.5	27.0	7.5	Bremer[g]	
		—	—	—	D.C. Leighton et al.[l]	
Yes	No	1.2[d]	2.5[d]	1.3	Brugger[m]	2
		10.3	29.7	19.4	Primrose	
No	No	3.4[d]	5.3[d]	1.9	Brugger[m]	4
		45.0	54.1[d]	9.1	Llewellyn-Thomas[n]	
		7.4[d]	25.7[d]	18.3	Brugger[m]	
		0.0	22.7[d]	22.7	Strotzka et al.	

a Excluding studies conducted in a mixture of urban and rural study sites.

b This study includes a small rural minority not reported separately. The figures given here are for adults at two educational levels. Dube reported that family income was not related to rate of disorder, but this finding is confused by the fact that the study population included both single and extended family units, and the rate of psychological disorder was higher in the latter, implying that per person, income might be inversely related to rate of disorder.

c Data for whites only reported for two wards separately.

d Calculated by B. S. Dohrenwend.

e Males and married females only.

f Based on survey data without supplementary physicians' reports included in total rate.

g Subjects divided into only two strata.

h Rates for two cities reported separately.

i Cole et al. do not report rates but state: " Four-fifths of the families in the lower social strata contained at least one mentally ill member, while less than one-half of the upper-stratum families were thus affected."

j Distribution of population in socioeconomic strata was reported only by number of families; since Japanese census reports do not include information on family size by socioeconomic strata, rates were calculated on the basis of equal family size in all four strata.

k Annual incidence rates.

l Results reported in ridits rather than percentages.

m Occupations grouped by B. S. Dohrenwend into three strata: high (self-employed merchants, manufacturers, and farmers, and middle-level civil servants); middle (merchants, manufacturers, and farmers employed by others, and low-level civil servants); and low (workers and servants).

n Occupations grouped by B. S. Dohrenwend into three strata: high (independent business and salaried workers); middle (fishermen and farmers); and low (laborers). Two categories of persons grouped separately by Llewellyn-Thomas69 were excluded: housewives and miscellaneous.

As Table 29-3 shows, the results are striking. The inverse relationship between class and overall rates of psychiatric disorder is mainly an urban phenomenon. Taken together with the findings shown in Table 29-1 of higher overall rates in urban settings, this suggests that whatever processes produce psychiatric disorders, they are more concentrated in cities and are strongly

related to the class system in such settings.

The Social Causation-Social Selection Issue

In 1939, Faris and Dunham published their classic ecological study of psychiatric disorder in the city of Chicago. Their well-known finding was that the first admission rates for most psychoses, including schizophrenia, were highest in the central slum section of the city and decreased regularly as one moved out toward the well-to-do suburban areas. The explanation they favored at the time was that "the patterns of rates reveal that the nature of the social life and conditions in certain areas of the city is in some way a cause of the high rates of mental disorder." More specifically, it is the "terrifically harsh, intensely individualistic, highly competitive, extremely crude, and often violently brutal" social life that predisposes to disorder in general, and related social isolation that contributes to schizophrenia in particular.

Since this work, two extremely influential urban investigations stemming from social environmental orientations to etiology have been published in the United States: the New Haven Study, and the Midtown Study. The investigation of treated rates of disorder according to social class in New Haven was motivated by a view that "psychiatrists work with phenomena that are essentially social in origin." Similarly, the Midtown Study investigators of the prevalence of treated and untreated psychiatric disorder

in a section of Manhattan in New York City took as their "most fundamental postulate" the proposition that "sociocultural conditions . . . have measurable consequences reflected in the mental health differences to be observed within a population."

These theoretical orientations are examples of what can be grouped under the broad heading of social causation approaches. To varying degrees, they are quite compatible with the sick society analogy, with the addition that they locate the sources of the social organism's greatest pain in its slums and low-status groups. Note, however, that while the results of these studies were in the main consistent with their theoretical positions and hypotheses, both sets of researchers, like Faris and Dunham before them, were aware of a major problem: Their findings do not enable them to rule out plausible alternative explanations from opposing theoretical points of view.

As early critics of the research of Faris and Dunham pointed out, downward social drift of previously ill persons can plausibly explain the concentration of cases in the slums of Chicago. Nor does a finding in the New Haven Study that most lower-class cases of disorder had originated in that class rather than having drifted down to it resolve the problem. As Gruenberg pointed out, in a society such as our own where upward social mobility is the norm, it is quite possible that the healthy members of the lower class have been selected upward, leaving behind a residue of ill. Both downward drift

and the notion of residues are main varieties of what can be termed social selection hypotheses. These alternatives to the social causation hypotheses, we should note, are compatible with genetic theories of etiology.

Consider in light of this social causation-social selection issue the two broad types of disorder that we found above to be more highly concentrated in urban than in rural settings: neurosis and personality disorder. By either the social causation or the social selection arguments as developed above with reference to urban settings, both types of disorder should be more consistently concentrated in the urban lower class than in the rural lower class. As Table 29-4 shows, this is not the cause with neurosis. In urban as well as in rural settings, the highest rate is as likely to be found in a social class other than the lowest as it is to be found in the lowest social class. This suggests that the social causation-social selection issue must be reformulated with reference to neurosis, and we will return to this problem later on.

Table 29-4. Epidemiological Studies Classified According to Urban or Rural Study Site and Finding of Highest Rate of Neurosis in Lowest or Other Than Lowest Social Class[a]

Maximum in Lowest Social Class	Percentage			
	Minimum	Maximum	d	Authors
		URBAN STUDY SITES		
Yes	1.34	8.01	6.67	Pasamanick et al.
	29.00	47.00	18.00	Gillis et al.[b]

	—	—	—	Cole et al.[c]
No	0.00	0.32[d]	0.32	Tsuwaga et al.
	2.90	4.70	1.80	Hyde and Kingsley
	30.00	49.30	19.30	Langner and Michael
	RURAL STUDY SITES			
Yes	0.11[d]	0.28[d]	0.17	Brugger
	0.00	0.33[d]	0.33	Akimoto et al.
	50.00[e]	70.00[e]	20.00	D.C. Leighton et al.[b]
No	0.00	0.46[d]	0.46	Brugger
	4.40	6.74	2.34	Bremer
	7.16	15.74	8.31	Primrose

a Excluding studies conducted in a mixture of urban and rural sites.

b Figures are given for symptom patterns, which may or may not be cases.

c Without giving actual figures Cole et al. reported that neuroses were found to be about twice as frequent in lower-level families as in upper-level families.

d Calculated by B. S. Dohrenwend.

e Approximations estimated from Figure 15 in D. C. Leighton et al.

By contrast with neurosis, Table 29-5 shows that rates of personality disorder are consistently highest in the lowest class. Note, however, this is true in rural as well as in urban settings. What this suggests is that the inverse

relationship between personality disorder and social class is so strong that it holds across the differences in rural and urban class systems, even though, as we saw in Table 29-2, there is less personality disorder in rural than in urban areas.

Table 29-5. Epidemiological Studies Classified According to Urban or Rural Study Site and Finding of Highest Rate of Personality Disorder in Lowest or Other Than Lowest Social Class[a]

Maximum in Lowest Social Class	Percentage			
	Minimum	Maximum	d	Authors
	URBAN STUDY SITES			
Yes	3.4[b]	9.7b	6.3	Hyde and Kinglsey
	0.0	7.0	7.0	Gillis et al.[c]
	4.5	14.9	10.4	Langner and Michael
	—	—	—	Cole et al.[d]
No	0.43[e]	0.96[e]	0.53	Tsuwaga et al.
	RURAL STUDY SITES			
Yes	0.19[e]	0.46[e]	0.27	Brugger
	0.00	0.59[e]	0.59	Akimoto et al.
	7.49[e]	11.17[e]	3.68	Bremer
	0.99	15.20	14.21	Primrose
No			1.41	Brugger

1.90[e]	3.31[e]		
13.23[f]	15.69[f]	2.46	D.C. Leighton et al.[c]

a Excluding studies conducted in a mixture of urban and rural study sites.

b Calculated by B. S. Dohrenwend by addition of figures given by Hyde and Kingsley to one decimal place.

c Figures are given for symptom patterns, which may or may not be cases.

d Cole et al. do not give actual figures but report that " 'acting out' types of aberrations [tend to be more frequent] in the [lower] levels."

e Calculated by B. S. Dohrenwend.

f Calculated by B. S. Dohrenwend from combination of estimates for personality disorders and sociopathic behavior made from Figure 16, in D. C. Leighton et al. These categories were combined despite not being mutually exclusive because, of 128 cases in the two categories, only 10 are in both.

We also saw, in Table 29-2, that total rates of psychosis contrasted with both personality disorder and neurosis in that the psychosis rates were not consistently found to be higher in urban than in rural settings. As Table 29-6 shows, they contrast with these two other types of disorder again in that they tend to be inversely related to social class in urban settings though not in rural settings. This suggests that the relationship between social class and psychosis is not strong enough to hold in rural settings.

It should be noted, however, that the broad category of psychosis masks some strong differences in subtypes of disorder such as manic-depressive

psychosis and schizophrenia. Only seven of the epidemiological studies including untreated as well as treated cases reported data on schizophrenia and manic-depressive psychosis according to class. None showed the highest rate of manic-depressive psychosis in the lowest class. Manic-depressive psychosis thus appears more nearly to resemble neurosis than personality disorder in its relation to class.

For schizophrenia, five of the seven showed the highest rate in the lowest class. Of these five, three were rural and two reported rates according to class for combined rural and urban study sites. The two exceptions were Japanese studies, one done in an urban98 and the other in a rural community. More recent results from Japan suggest, however, that these two studies may be exceptions in Japan also, since on the basis of nationwide investigation of untreated as well as treated disorder, schizophrenia was found to be inversely related to class.56 For schizophrenia, moreover, studies based only on treated rates have tended to show the same inverse relationship with class as the studies we reviewed. On the latter types of studies (there are about a dozen reported or reviewed in the references cited above) only one did not show the highest treated rates of schizophrenia in the lowest social stratum. It would seem, then, that schizophrenia is similar to personality disorder in that its inverse relationship to social class is so strong that it tends to hold in rural as well as in urban settings.

These findings on neurosis, personality disorder, total rates of psychoses, and rates for the manic-depressive and schizophrenic sub-types suggest, then, that different types of psychiatric disorder show markedly different relationships to social class and to urban versus rural settings. These differences suggest, in turn, that social causation and social selection processes in urban areas must be very different for the different types of disorder. How can we investigate these differences?

Table 29-6. Epidemiological Studies Classified According to Urban or Rural Study Site and Finding of Highest Rate of Psychoses in Lowest or Other Than Lowest Social Class[a]

Maximum in Lowest Social Class	Percentage			
	Minimum	Maximum	d	Authors
	URBAN STUDY SITES			
Yes	0.16	0.45	0.29	Hyde and Kinglsey
	0.00	4.00	4.00	Gillis et al.[b]
	3.60	13.10	9.50	Langner and Michael
No	0.21[c]	0.60[c]	0.39	Tsuwaga et al.[d]
	0.08	0.87	0.79	Pasamanick et al.
	RURAL STUDY SITES			
Yes	0.56[c]	0.92[c]	0.36	Bremer[d]
No	1.35[c]	1.48[c]	0.13	Brugger[d,e]

0.42[c]	0.72[c]	0.30	Brugger[d,e]
0.00	0.47	0.47	Primrose
0.25[c]	1.30[c]	1.05	Akimoto et al.[d]
—	—	—	D.C. Leighton et al.[b,f]

a Excluding studies conducted in a mixture of urban and rural sites.

b Figures are for symptom patterns, which may or may not be cases.

c Calculated by B. S. Dohrenwend.

d Functional psychoses only.

e Rates for lifetime morbidity.

f It is estimated in D. C. Leighton et al.05-p-291 that the rate in the lowest employed occupational stratum is either equal to or slightly lower than the two middle strata; estimates are not presented here because, with rates in the range of l or 2 percent, error in estimation would be unduly large. Stratum 5 was not considered in this comparison because it is composed largely of retired people, thereby confounding age with social class.

A Quasi-Experimental Strategy

It is possible to conceive in the abstract of straightforward approaches to the problem. There are, however, strong ethical and practical obstacles to the actual undertakings that would be involved.

Consider, for example, the possibility of initiating a massive prospective study of the relation between social mobility and disorder over several

generations. This would supply the missing data on family histories of disorder, thereby overcoming some of the problems involved in interpreting the etiological implications of studies of social mobility and schizophrenia. It would also extend the mobility studies to other types of psychiatric disorder. A major practical problem here, however, is the career aspirations of the initiators of such programs, who would have to leave them to succeeding generations of researchers to carry to completion. To date, researchers have not been able to tolerate such self-denial. Even Mednick and Schulsinger's remarkable plan for a twenty-year follow-up of high-risk subjects was designed "to maximize the probability that the investigators would still be alive at the conclusion."

Another straightforward approach would be to design experiments involving the manipulation of hypothesized genetic and environmental pathogenic factors to determine their effects. A fascinating model of how this might be done was provided recently by Thoday and Gibson. The subjects were flies; the characteristic to be explained was the number of bristles they developed; and the environmental variable was temperature. The investigators' procedure was to divide the flies into two groups on the basis of the number of their bristles, raise them under different temperature conditions, retain offspring in each generation in their group or transfer them to the other group on the basis of number of their bristles, and assess the results of nine generations. The important point, of course, is that the subjects

of the experiment were flies. They enable investigators to solve all or most of the design problems, including that of history, the very problems that constitute insurmountable practical and ethical difficulties when our subjects are human beings and the effect in which we are interested is psychiatric disorder.

More impressive research has been done on the etiology of schizophrenia than on any of the other types of psychiatric disorder with no known organic basis. The strongest of this research has been made possible by the identification of natural experiments. The prime examples are the control of heredity provided by the phenomenon of monozygotic twins and the strategies centering on adoption. In such strategies, however, the powerful experimental contrasts so far have been on the genetic rather than on the social environmental side of the nature-nurture issue. Are there other natural contrasts that would make it possible to develop quasi-experimental strategies for investigating the etiological implications of the relations among urban environment, social class, and psychiatric disorder?

We have argued that at least one such set of conditions does exist and that it provides, potentially, a key to a crucial test of the social causation-social selection issue for any type or combination of types of psychiatric disorder that are inversely related to social class. The conditions are provided by the processes whereby ethnic groups are assimilated in relatively open-

class urban societies. Let us try to summarize this quasi-experimental strategy as it would apply in New York City.[2]

The history of New York City has been marked by successive waves of new immigrant groups: the Irish and Germans in the 1840s, the Jews and Italians starting in the 1880s, the blacks after World War I, and the Puerto Ricans after World War II. With the possible exception of non-Jewish Germans, the initial conditions of these new groups in the city have been those of poverty, slums, and working-class jobs. The Jews, the Irish, and, to a lesser extent, the Italians have moved up over succeeding generations into relatively affluent and largely middle-class circumstances. In this process of assimilation, these three ethnic groups have achieved a substantial share in the wealth and power of the city.

In sharp contrast to these now relatively advantaged ethnic groups are the blacks and Puerto Ricans, who are concentrated geographically in the city's slums and occupationally in its low-paying unskilled and semiskilled jobs. Glazer and Moynihan summarized the economic picture in the city, stating that

> the economy of New York ... is dominated at its peak (the banks, insurance companies, utilities, big corporation offices) by white Protestants, with Irish Catholics and Jews playing somewhat smaller roles. In wholesale and retail commerce, Jews predominate. White collar workers are largely Irish and Italian if they work for big organizations, and Jewish if they work for smaller ones. The city's working class is, on its upper levels, Irish, Italian

and Jewish; on its lower levels, Negro and Puerto Rican.

Some Assumptions

With the above illustration of different stages of ethnic assimilation in mind, let us make some assumptions:

1. On the basis of these assumptions, it is possible to derive from opposing social environmental and genetic theoretical orientations alternative predictions about rates of disorder in different ethnic groups within the same social class.

2. That serious psychiatric disorder involves disability that decreases the probability of upward social mobility and increases the probability of downward social mobility.

3. That there is greater downward social pressure on members of disadvantaged ethnic groups, such as blacks and Puerto Ricans, than on their social-class counterparts in more advantaged ethnic groups, such as white Anglo-Saxon Protestants, Jews, and Irish.

4. That there are no genetic differences between ethnic groups that are more likely to predispose the members of one than the members of another to develop serious psychiatric disorder.

On the basis of these assumptions, it is possible to derive from opposing social environmental and genetic theoretical orientations alternative predictions about rates of disorder in different ethnic groups within the same

social class.

The Social Environmental Prediction

If the rate of disorder in a particular social class is a function of the amount of environmentally induced stress experienced by members of this class, we should find higher rates of disorder among persons in disadvantaged ethnic groups than among persons from advantaged ethnic groups in the same social class. In other words, the greater social pressure exerted on these relatively disadvantaged ethnic groups (for example, blacks and Puerto Ricans in New York City) would be expected to produce an increment in psychopathology over and above that produced by the lesser social pressure, at any given class level, on members of more advantaged ethnic groups (for example, white Anglo-Saxon Protestants and Jews in New York City).

The Genetic Prediction

By contrast, from a genetic point of view we would expect just the opposite. For if disorder is mainly an outcome of genetic endowment, we would expect the rate in a given class to be a function of social selection processes whereby the able tend to rise or maintain high status and the disabled to drift down from high status or fail to rise out of low status. Since

the downward social pressure is greater on disadvantaged ethnic groups, such as blacks and Puerto Ricans, we would expect many of their healthier members to be kept in low status, thereby diluting the rate of disorder. In contrast, with less pressure to block them, the tendency of healthy members of more advantaged ethnic groups to rise would leave a residue of disabled persons among the lower-class members of these advantaged ethnic groups, thereby inflating their rate of disorder. Thus, social selection should function to give a lower rate of disorder in disadvantaged than in advantaged ethnic groups if social class is held constant.

The Problem of Disorders Not Inversely Related to Social Class

We noted that these predictions can be tested for any types of disorder that pose the social causation-social selection issue by dint of their inverse relationship with social class in urban settings. This is the case for total rates of disorder, total rates of psychosis, and also for two more discrete subtypes, schizophrenia and personality disorder. Results for the various types of disorder thus investigated could differ, thereby providing detailed specification of more precise effects of social environmental stresses and genetic endowment.

It will be recalled, however, that two major subtypes of psychiatric disorder—neurosis and manic-depressive psychosis—did not show an

inverse relationship with social class. What does this imply about social selection and social causation processes in relation to these types of disorder?

The lack of an inverse relationship with social class would imply that social selection processes play little or no part in the distribution of these disorders. From a genetic point of view, the most likely reason would be that neurosis and manic-depressive psychosis are less disabling than the types of disorders that are inversely related to class. From a social causation point of view, by contrast, various theorists have suggested that there are class differences in the factors mediating social pressure that make middle-class individuals particularly vulnerable to neurotic breakdown. A major axis in this conception involves a distinction between lower-class conformity values and middle-class autonomy values. Note that this conception does not contradict the implication of other observations supporting our basic assumption that the quantity of pressures is greatest on the lowest class. Rather, the distinction being drawn is a qualitative rather than a quantitative one; it centers on a difference in the type of pressure experienced by persons from the middle rather than the lower class.

On the basis of these considerations, tests of the genetic and social causation alternatives for neurosis and manic-depressive psychosis would differ somewhat from the tests set forth above for types of disorder that are inversely related to class. Since we still assume that there are no differences

in inherited disposition to disorder between ethnic groups, and since there would be less opportunity for social selection to play a part in the distribution of these less disabling disorders, the prediction from a genetic orientation would be of no difference in rates of neurosis and manic-depressive psychosis for members of advantaged versus disadvantaged ethnic groups from the same social class. However, social pressure would still be greater on members of disadvantaged ethnic groups, so we would again predict, from a social causation point of view, that the disadvantaged ethnic groups would show higher rates of neurosis and manic-depressive psychosis if class is held constant.

The Importance of Replication

Replication of the quasi experiment in varied national and cultural settings could provide a cumulatively powerful test. Thus, results for blacks and Puerto Ricans by contrast with more advantaged ethnic groups in New York City would be strengthened if they could be replicated for sets of advantaged and disadvantaged ethnic groups including, for example, Indians and Pakistanis in London or migrants from southern Italy to the northern industrial city of Milan. Such replications, if successful, would tend to rule out alternative explanations of the results in any single urban setting as being due to idiosyncratic genetic factors or idiosyncratic stressful circumstances.

State of the Facts Bearing on the Quasi-Experimental Strategy: Problems and Prospects

If the preceding theoretical analysis is correct, we may have something quite rare—a major substantive issue that could turn on what deceptively appear to be simple questions of fact, for example, the question of whether the rates of various types of disorder are higher or lower or the same among blacks and Puerto Ricans in New York City relative to their class counterparts in more advantaged ethnic groups. Unfortunately, the epidemiological studies that we reviewed do not provide data on rates of various subtypes of psychiatric disorder for contrasting ethnic groups with class controlled.

Nevertheless, some ongoing research may soon provide highly relevant data: for example, Lee Robins' prospective study of antisocial behavior in samples of white and black males in St. Louis and Langner's recently begun follow-up investigation of impairing symptoms in samples of children, some of them now adolescents and young adults, in a section of New York City. Moreover, the existence of several psychiatric case registers, such as the one in Rochester, New York, may, if cross-checked by community interviews, make possible relevant comparisons on rates of schizophrenia.

It is possible, in fact, to envision a series of investigations in which the quasi-experimental strategy would be replicated in large metropolitan regions. This would involve field studies focused on sets of advantaged and

disadvantaged ethnic groups sampled in such a way as to permit control of social class across ethnic comparisons. The sampling problems are difficult but far from insurmountable. In New York City, for example, they would involve oversampling lower-class white Anglo-Saxon Protestant and Jewish respondents since these groups are mainly middle and upper in class composition. By contrast, black and Puerto Rican lower-class respondents would be under-sampled since lower-class persons are in the majority in these ethnic groups. It might even be possible, in addition, to sample relatives of a number of the subjects in ways that would enable us to use the ingenious family set method recently developed by Harburg, Schull, and their associates; this would permit a more direct assessment of the role of genetic factors in our results.

The most serious obstacles to further research are centered in the problem of how to conceptualize and measure different types of psychiatric disorder in the sets of contrasting class and ethnic groups in the urban areas to be studied. As was reported earlier, differences in the concepts and methods used in previous studies are the main reasons for the great differences in rates of disorder reported by different investigators. Moreover, since the evidence for the validity of the measures of psychiatric disorders used in these studies is sparse, there is no way to choose on the basis of objective criteria the more valid among them for purposes of conducting further investigations. Our own earlier studies in the Washington Heights

section of New York City, rather than supplying more of the necessary facts, have uncovered more methodological problems in how to conceptualize and measure psychiatric disorder in contrasting class and ethnic groups.

There are, however, major clues from this work and from the previous epidemiological studies on the nature of the methodological problems and, by implication, how to formulate them—the necessary first step toward a solution. Look again at Table 29-3. Note the high rates of disorder reported in some of the investigations. The Midtown Study, for example, reported a rate of 47.3 per cent in the lowest social class.

Where else have there been reports of such high rates of distress in non-patient groups? We turned for an answer to descriptions of reactions to stress situations, including accounts of the Nazi concentration camp experience, combat, bereavement, and forced relocation from neighborhood homes as a result of urban renewal.

From a review of this research, it is evident that previously normal persons will show psychiatric symptoms in stressful circumstances. In some severely stressful conditions, moreover, the symptoms can seem serious indeed. Noyes and Kolb, for example, describe pseudo-psychotic, or three-day, psychoses in reaction to combat. For the most part, however, such symptoms tend to be transient unless supported by secondary gain. Only in

the most severe circumstances, such as those of maternal and stimulus deprivation in infancy and the concentration camps for Jews under Hitler, do we have strong evidence of persistent psychiatric disorder being produced by contemporary stress situations. It appears, therefore, that most situationally induced symptomatology, unless supported by secondary gain, tends to be transient and stands in sharp qualitative contrast to the persistent and intransigent symptomatology observed in psychiatric patients.

Consider the possibility, then, that many or perhaps even all psychiatric symptoms are something like elevated temperature. The same set of symptoms seen at any given time may indicate vastly different underlying problems. The overwhelming majority of the epidemiological studies of general populations were conducted at only one point in time. To date, they have provided little reliable information about the persistence of symptomatology over time in the context of changing situations. In sum, there is no way to tell in most of these studies whether the symptoms observed were situationally specific or persistent manifestations of personality defect, including, perhaps especially, defects that are genetic in origin.

We and others have found that stressful events—events such as a death in the family, a serious physical illness or injury to the breadwinner, marriage, or birth of a first child—that disrupt an individual's usual pattern of activities are far from infrequent in general population. Moreover, there is strong

evidence that the harsher stress situations induced by such events are more frequent in the environment of lower class than in the environment of higher-class groups. These considerations have led us to conclude that while the epidemiological studies of general populations have demonstrated an inverse relationship between social class and symptomatology, the psychiatric implications of such symptomatology are very much in doubt.

We think, then, that the symptoms reported in these epidemiological studies have been of two main types:

1. Those mainly generated by stressful social situations and (a) transient in the absence of secondary gains or (b) persistent when supported by secondary gain.

2. Those mainly generated by personality defects and persistent or episodically recurrent even in the absence of secondary gain. Such personality defects would certainly include and may even, we have argued, consist for the most part of problems that are genetic in origin.

We regard the distinction between situation-generated symptomatology and personality defect-generated symptomatology as being of central importance to the conceptualization and measurement of psychiatric disorder. If we can distinguish what is situationally specific symptomatology from what is not, we can further specify the alternative predictions of the quasi-experimental research strategy outlined above. That

is, we can compare the rate of situation-generated symptomatology by contrast with the rate of defect-generated symptomatology across the sets of contrasting ethnic groups, with social class controlled. We would expect the rates for individuals who show mainly the situation-generated symptomatology to conform more nearly to the social causation prediction; by contrast, we would expect the rates for individuals who show mainly the defect-generated symptomatology to conform more nearly to the social selection or genetic prediction. What is needed to test these predictions is the development of adequate measurement procedures for the study of different types of symptomatology and related ability and disability in role functioning over time and in the context of changing social situations in contrasting class and ethnic groups.

Implications

The U.S. Bureau of the Census defines as urban all central cities with populations of 50,000 or more, the remainder of the county in which they are located, and contiguous counties that are integrated with them socially and economically. Each of these central cities and its satellites is called a standard metropolitan statistical area, and in 1900 only two-fifths of the population of the coterminous United States lived in such settings. This fraction had increased to about half by 1920; to three-fifths by 1950; and to almost two-thirds by 1960. Today (as of the 1970 census), almost three-quarters of our

somewhat more than 200 million people live in one of these approximately 230 urban settings, with fully one-third of the population in the 25 largest and still rapidly growing metropolitan regions of the country alone. We have been transformed from a rural to an urban society since the turn of the century.

The great cities of an industrial society such as ours are collecting points for people of widely varying backgrounds, interests, and financial means to pursue them. This diversity and continuing change in population are matters of compelling importance. News of population shifts appear in *The New York Times* as soon as the Bureau of the Census releases 1970 data on black migration to the central city from the south, or on migration of white middle-income groups to the suburbs. We read, for example, that while about 12 percent of the United States population as a whole is black, blacks make up slightly more than one-fifth of the population in our central cities. And of the approximately 6 million Mexican Americans in the country, about 80 percent live in urban barrios such as East Los Angeles.

These shifts of population to urban areas are worldwide. In an industrial city such as Milan in northern Italy, for example, only about 500,000 of its 1.7 million population were born there. Almost half the remainder are estimated to be among the 6 million southerners who moved north following World War

They share some basic characteristics with their counterparts, such as blacks in New York or Chicanos in Los Angeles: They are new to the city; their customs and manners are different; and they have little in the way of financial resources or occupational skills, the essential equipment for developing socially acceptable modes of mastering urban ways of life.

In this context, we suggest that the major research and service goals of community and social psychiatry might well be, first, to discover and understand more fully relations between the social phenomena of urbanization on the one hand and psychiatric disorders on the other, and second, on the basis of this understanding, to find ways of delivering effective services to individuals from groups with the most extensive and severe psychiatric problems. In terms of these goals, and against a background of the increasing urbanization briefly but vividly illustrated by the figures given above, what are the actual and potential contributions of the work that we have been describing?

Despite important studies by Eaton and Weil, Goldhamer and Marshall, Inkeles and Smith, and Mitchell that have led us to question the popular stereotypes of urban living, we have shown that the best evidence suggests that overall rates of psychiatric disorder are indeed higher in urban than in rural areas; not all types (there is no evidence that total rates of psychosis are higher in urban than in rural areas) but important subtypes such as neurosis

and personality disorder are responsible for this result. Moreover, within urban areas, not only the total overall rates but total psychoses, schizophrenia, and personality disorder are disproportionately concentrated in the lowest social class. One of these (schizophrenia) is psychiatrically the most severe and debilitating of the disorders with no known organic basis; the other (personality disorder), with its strong antisocial subtypes, is the most threatening to others and hence most socially disapproved. These research results thus decisively nominate the low-status groups in urban settings as the primary target, from both a psychiatric and a public point of view, for programs in community and social psychiatry.

In settings where rates of such disorder are highly concentrated, there is a compelling immediacy in the need for action, for these are also, as Mitchell's results showed, the areas where greatest crowding is likely to lead to lapses in parental supervision of their children. Let us underline this need with some comments by the novelist Joyce Carol Oates that suggest its urgency more vividly than the figures we have given:

> It is a fact of slum life that children dominate in sheer numbers. The more impoverished the neighborhood, the more children to run wild in its streets and on its sidewalks, both powerful and helpless. The fear of anarchy, shared by all of us who have been children, materializes in the constant struggle of children to maintain their identities, striking and recoiling from one another: in miniature they live out tragic scenarios, the pressure upon the human soul in our age, the overcrowding of life, the suffocation of the personality under the weight of sheer numbers, noise, confusion.

Locating the primary target is one thing; there are many, after all, who have suspected that it was there right along. Specifying how to approach this target is quite another. If we have documented more amply that the highest rates of psychiatric disorder are to be found in the lowest-class groups residing in urban settings, we have also shown that the etiological implications of this finding are very much at issue. Thus, the facts about psychiatric disorder in urban settings that would be most relevant to the formulation of psychiatric programs of prevention and treatment are, in the main, still missing.

Yet, just as twin and adoption studies have made possible major advances in demonstrating that there is a significant genetic factor in the transmission of schizophrenia, so there is the possibility that new strategies for research on psychiatric disorder in general populations, such as the quasi-experimental design outlined above or others to be developed, will lead to breakthroughs in basic knowledge of the role of social environmental factors and their relative importance in etiology. To do so, we would argue, such designs should be no less concerned with social mobility, ethnic and class diversity, and the nature of assimilation processes than are the press, politicians, and government officials, for these are the salient social realities of modern urban life.

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Notes

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2 The following description of the quasi-experimental strategy is adapted from B. P. Dohrenwend and B. S. Dohrenwend.