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MENTAL HOSPITALIZATION PATTERNS OF THE FOREIGN-BORN IN NEW YORK CITY

by

Gregory L. Muhlin

A dissertation submitted to the Graduate Faculty in Sociology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, the City University of New York.

1977

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Abstract

MENTAL HOSPITALIZATION PATTERNS OF THE FOREIGN-BORN

IN

NEW YORK CITY

by

Gregory L. Muhlin

Adviser: Professer James M. Beshers

This study assesses the relationship of cultural isolation, socio-economic status of communities, and the change in neighborhood ethnic composition with 1970 psychiatric hospitalization rates for those persons born in Ireland, Germany, Poland, Austria and Hungary, the U.S.S.R., and Italy. The literature reviewed focuses on the etiological nature of migration, isolation and marginality in mental illness. Using data extracted from the admission records of foreign-born psychiatric patients and from the 1960 and 1970 censuses, it was found that cultural isolation was highly related to psychiatric hospitalization rates of the foreign-born, the socio-economic status of communities was somewhat related to the hospitalization patterns, and change in ethnic composition was unrelated. In addition, we were

unable to predict foreign-born psychiatric hospitalization rates using census measures an independent variables in multiple regression equations. The study concludes with a discussion of policy implications and recommendations for further research.

Acknowledgements

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I would like to express my sincere appreciation to my friends and colleagues without whose help this study would not have been possible. Specifically, I would like to thank:

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Chapter I

INTRODUCTION

An Overview

In recent years there has been a resurgence of interest in ethnic populations and in their adjustment to the American way of life. Best sellers such as Irving Howe's World of Our Fathers[1] and Richard Gambino's Blood of My Blood[2] chronicle the immigrant experiences. Movies such as Hester Street[3] portray the problems of cultural adjustment for the immigrant in learning to function in their new society.

This interest in ethnicity seemed to explode in the 1960's with a tremendous growth of group consciousness, first among blacks and later by Puerto Ricans, Chicanos and American Indians. The theme of this awareness was initially centered around the issue of civil rights, but later expanded to include language and other facets of culture.

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[1]Irving Howe, World of Our Fathers, New York: Harcourt, Brace and Jovanovich, 1976.

[2]Richard Gambino, Blood of My Blood: The Dilemma of the Italian-Americans, Garden City, N.Y.: Doubleday, 1974.

[3]Joan Micklin Silver, director. Hester Street, Midwest Film Productions, 1975.

This reassertion of group identity expands in the early 1970's to include the Italians, Greeks, Jews, Poles and countless other groups. The visibility and pride of the hyphenated American mushroomed during this period. In large cities, such as New York, ethnic advocate groups arose such as CIAO, the Congress of Italian-American Organizations[4] or HANAC, the Hellenic-American Neighborhood Action Committee[5] or even the JDL, the Jewish Defense League with their more international view of ethnic survival.

All immigrant groups have experienced or still are experiencing problems of dealing with or adjusting to the modern urban condition. Although many groups seem to survive the transition relatively unscathed, others have not been as fortunate. In examining, for example, the economic political gains of successive waves of immigrants during the late nineteenth and early twentieth centuries, there are clearly differences among the various ethnic groups in terms of what one might call success.

Conversely, in studying the "failures" of these ethnic groups one might also expect to find marked differences. One way of assessing the possible impact of

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[4]Josephine Casalena, A Portrait for the Italian-American Community in New York City. New York: Congress of Italian American Organizations, Inc., 1975.

[5]Simeon Haritos, ed. The Needs of the Growing Greek-American Community in the City of New York. New York. Hellenic American Neighborhood Action Committee, 1975.

migration and cultural adaptation on different ethnic groups is to examine the psychiatric casualties of those groups. It is this manifestation of "failure" that will be the focus of this study.

Statement of Objectives

The detailed study of the distribution of mental disorders has been of particular interest for sociologists during the past fifty years in the United States. Pioneering work in the ecology of mental disorders begins with early work at the University of Chicago, by Faris and Dunham,[6] although attempts to locate the mentally disabled in communities date back as early as 1854.[7] Today, a growing body of literature in the ecology of mental disorders relates various measures of the urban environment to variations in rates of mental illness in communities. There have also been numerous studies describing differences in mental illness rates for various ethnic groups, but, to date, there has been little literature which relates ethnic differences in mental illness rates to the social or environmental characteristics or communities using an ecological model.

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[6]R.E.L. Faris and H. Warren Dunham, Mental Disorders in Urban Areas, Chicago: University of Chicago Press, 1939.

[7]Deutsch, Albert, The Mentally Ill in America, New York: Columbia University Press, 1949.

The purpose of this study is to test a series of hypotheses relating ethnic-specific foreign-born mental hospitalization rates to various socio-demographic characteristics of communities. Specifically, the study will assess the roles of cultural isolation, change in ethnic populations, and socio-economic status in accounting for variability in the ethnic-specific mental hospitalization rates of communities.

This study will include a review of the overlapping literatures of psychiatric epidemiology, namely the "ecology of mental disorders" and the "ethnic differences" literatures. It will also include a description of the mental hospitalized foreign born population.

Definition of Key Terms

The study makes use of available data in the form of mental hospital records and census data rather than data gathered in the field. The measure of mental illness has been operationally defined to be the number of inpatients admitted to state licensed mental hospitals during the year preceding the 1970 census (April 1, 1969 to March 31, 1970). A number of studies, in the past, have used unduplicated first admissions.[8] The concept of the first

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[8]Henry Wechsler and Thomas F. Pugh, "Fit of Individual and Community Characteristics and Rates of Psychiatric Hospitalization," American Journal of Sociology 73 (November, 1967):331-338; Bernard L. Bloom, "An Ecological

admission has changed dramatically over the last few years. Through the use of psychotropic drugs, patients once admitted to mental hospitals can now be maintained in the community or in short stay psychiatric wards of general municipal or voluntary hospitals. In the past, patients admitted for the first time to state facilities included many having their first psychotic episode, whereas today a first admission to a state facility might almost be considered a sign of chronicity. In any case, it is generally agreed that an admission to a state inpatient facility constitutes a case of serious mental illness.

The patient records used in this study were selected for those persons born in a foreign country and residing in New York City at the time of their admission. The unit of geography used in this analysis is the health area, a small, relatively homogeneous area populated by approximately 23,000 persons. The units were created by the New York City Department of Health for data collection purposes earlier in this century. Expanded, more extensive definitions of all variables used in this analysis can be found in Chapter IV.

Analysis of Psychiatric Hospitalizations, "Multivariate Behavioral Research, 3 (October, 1968):423-464; Leo Levy and Louis Rowitz, The Ecology of Mental Disorder, New York: Behavioral Publications, 1973, to name a few.

Limitations of this Study

It is impossible, at this time, to assess the true prevalence of mental disorders in communities, although a number of studies have attempted to do this.[9] This study does not purport to replicate these epidemiological studies nor does it try to be critical of them. What this study attempts is a bridging of two literatures, empirically, through insights derived from available data.

Certain decisions were made in the selection of data. For example, although it can be hypothesized that those of Puerto Rican birth have problems of assimilation such as language which appear similar to those from other lands. Preliminary examination revealed that the Puerto Rican patients had a completely different age structure from those born in the European countries. The groups were thus sufficiently dissimilar to warrant exclusion of Puerto Ricans from the comparative analysis. Problems also existed in the selection of an appropriate population base for rate formulation since one cannot differentiate between

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[9]Leo Srole, Thomas S. Langner, Stanley Michael, Price Kirkpatrick, Marvin K. Opler, and Thomas A.C. Rennie. Mental Health in the Metropolis: The Midtown Manhattan Study. Vol. 1, New York: McGraw Hill, 1962; Thomas S. Langner and St. Michael, Life Stress and Mental Health, New York: MacMillan Co., 1963; Dorothea C. Leighton, J.S. Harding, D.B. Macklin, A.M. MacMillan and Alexander H. Leighton. The Character of Danger, New York: Basic Books, 1963 to mention a few.

first and second generation Puerto Ricans in the available census data.

Similarly, those of West Indian birth were eliminated from the analysis because of the complication of the issue of race. There is an enormous literature on racial differences in mental illness rates which could only confound the issue of nationality. It was decided that the issue of racial difference went well beyond the scope of this study. The study, therefore, deals primarily with the major white ethnic populations in New York City.

There are also some more general limitations of this study. They are as follows:

1. A longitudinal study is not possible due to the unfortunate fact that, since our data set was created, those items pertaining to the birthplace of the patient are no longer kept routinely nor are they entered onto a machine readable record. It may be possible, however, to require the collection of this information in the future.

2) A longitudinal study is not possible because appropriate population denominators are only available at present, through a decennial census. This is not likely to change in the near future. Although on October 17, 1976, President Ford signed into law legislation requiring a mid-decade census of population beginning in 1985, it is unlikely Public Law 94-521, which amends the Census Code

title 13,[10] will include detailed birthplace questions necessary to yield ethnic specific denominators.

3) As stated above, the records used in this study are limited to admissions to state licensed inpatient facilities for the one year under study. Generalizations to other years or other types of facilities must be qualified.

4) These psychiatric data do not identify persons native born of foreign parentage. Had these data been available, it would have been possible to replicate the work of Odegaard[11] and the many papers of Malzberg,[12] which illustrate the hospitalization rate differences among the foreign born, the children of foreign-born and those of native birth. The dependent variables for this study are limited to those of foreign birth only.

Nature and Order of Presentation

Chapter II is a review of the existing literature of relevance to this study. Beginning with a general overview of the field of psychiatric epidemiology, it explores the overlapping ecology of mental illness and ethnic

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[10]U.S. Department of Commerce, Bureau of the Census, Data User News 11 (November, 1976):1

[11]Ornulv Odegaard, "Emmigration and Mental Health," Mental Hygiene 20 (October, 1935):546-553.

[12]Benjamin Malzberg, "Mental Disease in New York State According to Nativity and Parentage," Mental Hygiene 19 (October, 1935):635-660; Benjamin Malzberg, Ethnic Variations in Mental Disease in N.Y. State 1949-1951, A Comparative Study of Selected Ethnic Populations, Albany, New

differences literature. The discussion will focus on the etiological nature of migration, isolation, and marginality in mental illness. It is the inter-relationship of these elements which provide the groundwork for this study.

Chapter III will explain the conceptual framework and methodology used. It begins with a statement of hypotheses based on existing literature. A discussion is then presented on the research methodology used. It includes an exploration of the literature relating the use of socio-demographic data as contextual descriptors of the social environment as independent variables in an analysis. The relationship between the hypotheses and the data used in the study will be presented. Chapter III concludes with a general description of the data used and a discussion of the means by which the data was obtained.

Chapter IV describes the preliminary data analyses from the time the data was received up to but not including the testing of the hypotheses. In this chapter, there is presentation of the preliminary findings which includes a description of the foreign-born mental hospital patients. Complete definitions of every variable used in the analyses are presented here.

Chapter V presents the final data selection and data reduction analyses prior to hypothesis testing as well as

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York: Research Foundation for Mental Hygiene, 1966, among others.

the actual testing of the hypotheses.

Chapter VI, entitled General Conclusions begins with a restatement of the objectives of the study. It discusses the conclusions drawn with respect to the support or rejection of the hypotheses. A discussion of suggestions for further research follows. Chapter VI concludes with a discussion of the possible implications of this study, both in terms of science in general and for social policy. A bibliography and appendix containing supporting documents follows.

Chapter II

REVIEW OF EXISTING LITERATURE

As one examines the literature of the sociology of mental illness, we find that it is segmented into distinct schools which have become historically and politically isolated from one another. The various orientations differ not only in their explanations of the etiology of mental disorders, but in the various populations that have been studied. The recent reviews by Dohrenwend and Dohrenwend,[1] chronicling the various themes on the etiology of mental disorders are probably the best to date.

This review will focus on the literature concerning the ecology of mental disorders as well as the literature describing ethnic differences in mental illness. The literature on race and mental illness is specifically excluded because it is beyond the scope of this study.

Spacial Variation: The Ecology of Mental Disorders

It has been observed, for the last hundred years at least, that mental illness is not

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[1]Bruce P. Dohrenwend and Barbara Snell Dohrenwend, "Social and Cultural Influences on Psychopathology," Annual Review of Psychology 25 (1974):417-452; Bruce P. Dohrenwend, "Sociocultural and Social-Psychological Factors in the Genesis of Mental Disorders," Journal of Health and Social Behavior 16 (December 1975):365-392.

uniformly distributed among populations.[2] It seems concentrated in certain subgroups and geographical areas. Similarly, social and demographic characteristics of populations also seem to be distributed in such patterns.[3] It is the study of the interrelationships of these patterns which are of interest to sociologists. More specifically, according to Dunham:

> "The central objective in the sociological study of mental disorders is two fold: first, to isolate those social variables that are causative or predisposing in the etiology of the several types of mental disorder and second, to isolate these complexes of social conditions that are associated with high incidence rates of the various mental disorders."[4]

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[2]William A. White, "Geographical Distribution of Insanity in the United States," Journal of Nervous and Mental Disease 30 (1903):257-279; Eliot Slater, "The Incidence of Mental Disorder," Annals of Eugenics 6 (June, 1935):172-185; Christopher Tietze, Paul Lemkau and Marcia Cooper, "A Survey of Statistical Studies on the Prevalence and Incidence of Mental Disorders in Sample Populations," Public Health Reports 58 (December 31, 1943):1909-1927; Morton Kramer et al., Mental Disorders/Suicide, Cambridge: Harvard University Press, 1972.

[3]James M. Beshers, Urban Social Structure, New York: Free Press 1962; Stanley Lieberson, Ethnic Patterns in American Cities, New York: Free Press, 1963; Nathan Glazer and Daniel P. Moynihan, Beyond the Melting Pot, 2nd ed., Cambridge: M.I.T. Press, 1970; Ira Rosenwaike, Population History of New York City, Syracuse: Syracuse University Press, 1972; Nathan Kantrowitz, Ethnic and Racial Segregation in the New York Metropolis, New York: Praeger Publications, 1973.

[4]H. Warren Dunham, "Methodology of Sociological Investigations of Mental Disorders," International Journal of Social Psychiatry 3 (Summer, 1957):2.

Once geographical variability had been established in the literature, the major issues in the ecology of mental illness concerned identification of the social forces that contribute to this patterning. How do the patients get to these areas? How are they identified? Under what environmental conditions do they live? In sum, the question becomes: How are the distributions found in ecological research best explained using

> "...three divergent frames of reference: the genetic, the interactional (as exemplified by the hypothesis of social isolation) and the cultural (exemplified by the view that social classes represent subcultures which differ with respect to both child socialization and types of stress)."[5]

Only passing references will be made to the literature on the genetics of mental disorder in this study.

In their pioneering examination of mental illness in Chicago, Robert E.L. Faris and H. Warren Dunham studied data on all first admissions to public and private mental hospitals from seventy five community areas of Chicago for the years 1922 through 1934. They found that areas located at or near the center of the city were characterized by both high social disorganization and the highest rates of mental illness.[6] The authors concluded that; a) mental

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[5]John A. Clausen and Melvin L. Kohn," The Ecological Approach in Social Psychiatry," American Journal of Sociology 40 (September, 1954):140.

[6]Faris and Dunham, Mental Disorders in Urban Areas.

illness, like other social problems examined by the "Chicago school," fits into the ecological structures of the city. b) The schizophrenia rate tends to decline in every direction the further one gets from the city center, or, stated another way, the highest rates of schizophrenia are to be found in the "disorganized communities at or near the center of the city." c) There was a slight tendency for those cases of manic-depressive illness to come from the higher socio-economic area although the distribution tended to be random. d) Alcoholic psychosis, drug addiction and syphillis all had their highest rates in the central city, and e) while the psychoses for the elderly showed a pattern very much like that for schizophrenia, the rates do not show a decline as we move away from the central city. The authors point out that those areas with high rates also have large numbers of foreign born persons. In addition, Dunham states that "...persons residing in areas not primarily populated by their own ethnic or racial groups show much higher rates than do those of the numerically dominant group."[7]

Immediately following the publication of the Faris and Dunham work, a whole series of studies of similar design were performed in St. Louis, Milwaukee, Omaha, Kansas

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[7]H. Warren Dunham, "Current Status of Ecological Research in Mental Disorder," Social Forces 25 (March, 1947):324-325.

City, Rockford, Peoria, Cleveland and Providence by Queen[8] and by Schroeder.[9] In general, with regard to admissions for all diagnoses, the patterns observed by Faris and Dunham fit the other cities. The city center tended to have the highest rates which diminished as one moved out from the city. The actual patterns for specific diagnoses did vary, however, as to how well they fit the Chicago model.

In more recent reexaminations of the mental hospitalization patterns in Chicago for 1961, Levy and Rowitz[10] found similar patterns. Although the distribution for schizophrenic first admissions now seemed random, "...the patterning of unduplicated admissions does approximate very well Faris and Dunham's original finding for first admission schizophrenics."[11]

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[8]Stuart A. Queen, "The Ecological Study of Mental Disorder," American Sociological Review 5 (April 1940):201-209.

[9]Clarence W. Schroeder, "Mental Disorders in Cities," American Journal of Sociology 48 (July, 1942):40-47.

[10]Louis Rowitz and Leo Levy, "Ecological Analysis of Treated Mental Disorders in Chicago," Archives of General Psychiatry 19 (November, 1968):571-579; Leo Levy and Louis Rowitz, "The Spacial Distribution of Treated Mental Disorders in Chicago," Social Psychiatry 5 (1970): 1-11; Leo Levy and Louis Rowitz, "Ecological Attributes of High and Low Mental Hospital Utilization Rates in Chicago," Social Psychiatry 6 (January, 1971): 20-28; Leo Levy and Rowitz, The Ecology of Mental Disorders, New York: Behavioral Publications, 1973.

[11]Levy and Rowitz, The Ecology of Mental Disorder: 153.

Similar relationships between census characteristics and psychiatric admission rates were also found by Klee et al[12] in Baltimore, and by Bloom[13] in Pueblo, Colorado as well as in other studies.[14]

Causal Hypotheses: Social Drift and Social Causation

Many of these studies, in trying to identify etiological factors in the ecology of psychiatric disorder have focused on the role of social class and socio-economic status as a central theme.[15] Despite the fact that the

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[12]G.D. Klee et al., "An Ecological Analysis of Diagnosed Mental Illness in Baltimore Research Reports, American Psychiatric Association 21 (1967):107-148.

[13]Bernard L. Bloom, "A Census Tract Analysis of Socially Deviant Behaviors," Multivariate Behavioral Research 1 (July, 1966):307-320; Bernard L. Bloom, "An Ecological Analysis of Psychiatric Hospitalizations." Multivariate Behavioral Research 3 (October, 1968):423-464.

[14]Elmer L. Struening and Stanley Lehmann, A Social Area Study of the Bronx: Environmental Determinants of Behavioral Deviants and Physical Pathology," Proceedings of the Association for Research in Nervous and Mental Disease 47 (December, 1967):130-139; Elmer L. Struening, Stanley Lehmann and Judith Rabkin, "Context and Behavior: A Social Area Study of New York City," in Migration and Adaptation ed E. Brody, Beverly Hills: Sage Publications, 1970:203-215; Elmer L. Struening et al., "Community Characteristics and Psychiatric Hospitalization," paper presented to the National Conference on Mental Health Statistics, New Orleans, Louisiana, May 1971; Leonard S. Kogan and Shirley Jenkins, Indicators of Child Health and Welfare: Development of the KIPOV Index, New York: Columbia University Press, 1974.

[15]Kingsley Davis, "Mental Hygiene and the Class Structure," Psychiatry 1 (February, 1938):55-65; Robert W. Hyde and Lowell V. Kingsley, "Studies in Medical Sociology, I: The Relation of Mental Disorders to the Community Socio-Economic Level," New England Journal of Medicine 231 (October 19, 1944):543-548; August B. Hollingshead and Fredrick C. Redlich, "Social Stratification and Psychiatric Disorders," American Sociological Review 18 (April 1953):163-169; August B. Hollingshead and Fredrick C. Redlick, Social Class and

relationship has been studied so often, there has been no definitive statement regarding the nature of the relationship between social factors and mental illness. The major studies in the field differ enormously in the conclusions they reach. In New Haven, Hollingshead and Redlich found the prevalence of schizophrenia eleven times as high in the lowest socioeconomic class (composed os unskilled workers with an elementary school education or less or who reside in the poorest areas of town) as in the highest (areas comprised of families of wealth and education). They interpret their findings to say that "...a distrinct relationship does exist between social class and mental illness."[16] E. Gartly Jaco in 1960, while studying the role of social class in mental illness in Texas found just the opposite.[17] He reports a positive relationship, with higher rates of psychosis among the professional classes. In a turnabout from his 1939 position Dunham said in 1965:

> "...the distribution of schizophrenia is mainly a function of mobility patterns of individuals and their families... These findings with respect to schizophrenia and social class also throws into

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Mental Illness, New York: John Wiley & Sons, 1958; H. Warren Dunham, "Social Class and Schizophrenia," American Journal of Orthopsychiatry 34 (1964):634-642; Everett S. Lee, "Socio-Economic and Migration Differentials in Mental Disease, New York State, 1949-1951," Milbank Memorial Fund Quarterly 41 (July 1963):249-268.

[16]Hollingshead and Redlich, Social Class and Mental Illness:217.

[17]E. Gartley Jaco, The Social Epidemiology of Mental Disorders, New York: Russell Sage Foundation, 1960.

> sharp question any proposition that asserts that the incidence of schizophrenia is inversely related to class position."[18]

The question arises that if social class does not adequately explain variations in rates of mental illness, what other factors determine or contribute to the residental patterns of the mentally ill in communities? The literature presents arguments between the drift or social selection hypotheses and the social causation hypothesis.[19] On the one hand, do persons who are mentally ill migrate to areas where their disorder will be more acceptable? Do they move to the poorer areas because they are incapable of functioning in other communities? On the otherhand, does living in poor, often disorganized communities contribute to the pathology of individuals? The evidence is by no means clearcut.

As mentioned above, Dunham[20] felt that mobility patterns were the central determinant in thelocation of the mentally ill. To further this argument there has been discussion that the migration process itself might very well be a contributing factor in psychiatric pathology.[21] This would explain the higher rates of mental illness in

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[18]H. Warren Durham, Community and Schizophrenia: An Epidemiological Analysis, Detroit: Wayne State University Press, 1965:255.

[19]Bruce P. Dohrenwend and Barbara Snell Dohrenwend, Social Status and Psychological Disorder: A Causal Inquiry, New York: Wiley-Interscience, 1969.

[20]Dunham, Community and Schizophrenia.

[21]A. G. Mezey "Psychiatric Aspects of Human Migrations," International Journal of Social Psychiatry 5 (1960):245-260.

areas containing many foreign born individuals.[22]

The explanations of how migration contributes to psychiatric disorder suggest the underlying cause is isolation. Social isolation, which presumably elicits behaviors which are considered illness in our culture, is regarded as the consequences of some breakdown of ties with society at large. This breakdown might be a product of a conflict of culture or it might be an inability of the individual himself to adjust to or make contacts with the surrounding environment in that community.

This notion of social isolation is found in major American sociological literature as early as 1928. In a paper by Robert Park, entitled Human Migration and the Marginal Man, he states that in migration, the breakdown of social order is initiated by the impact of the invading population, and is completed by the contact and fusion of native with alien peoples. "Migration as a social phenomenon must be studied not merely in its grosser affects as manifested in changes and customs and in mores, but it may be envisaged in its objective aspects as manifested in the change type of personality which it produces."[23] He states that when a traditional organization of society breaks down as a result of contact and collision with a new invading culture the

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[22]Faris and Dunham, Mental Disorder in Urban Areas.

[23]Robert E. Park, "Human Migration and the Marginal Man," American Journal of Sociology 33 (May, 1928):887.

effect is to emancipate the individual man. The energies that were formerly controlled by customs and tradition are released and the individual is without direction or control. "The emancipated individual invariably becomes in a certain sense and to a certain degree a cosmopolitan."[24] He learns to look upon the world in which he was born and bred with the detachment of a stranger.

Park argues that there are periods of transition and crises in the lives of most individuals that are perhaps comparable with those which the immigrant experiences when he leaves home to find a new life in a strange country, but in the case of the marginal man the period of crisis is relatively permanent. The result is that he tends to become a personality type. "It is in the mind of the marginal man that the moral turmoil which new cultural contacts occasion manifest itself in the most obvious forms. It is in the mind of the marginal man where the changes and fusions of culture are going on."[25]

In an article by Robert E. Lee Faris in 1934 entitled Cultural Isolation and the Schizophrenic Person-

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[24]Ibid., p. 888. For further discussion see Louis Wirth, "Urbanism as a Way of Life," American Journal of Sociology 44 (July, 1938):1-24; and Georg Simmel "The Metropolis and the Mental Life" in The Sociology of Georg Simmel Trans. and ed. by Kurt H. Wolff, New York: Free Press, 1950:409-424.

[25]Park, Human Migration:893.

ality.[26] Faris states that data from various sources appear to support the hypotheses that the "shut-in" or "seclusive" personality which is generally considered to be the basis of schizophrenia may be the result of an extended period of "cultural isolation," or the separation from intimate or sympathetic social contacts. In examining psychiatric hospital records, a large number of cases showed some history of this isolation. Many of the patients even showed evidence that they had once been normally sociable and developed seclusiveness only after a long period of isolation. He notes that descriptions of prisoners in solitary confinement and other spacially isolated peoples show that, in time, many developed the typical schizoid symptoms. In Faris' work, his examination of the early social isolation situation indicates that the large number of schizophrenics came from communities in which the social disorganization was very marked and an intimate social life was difficult to achieve. He states that, "where social contacts are adequate the schizoid personality type is rare or completely lacking."[27]

> "In those communities then, in which such conditions as extreme heterogeneity of types, mobility of population, secularization of ideas and individuation of personalities, are most prevalent, and where the

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[26] R.E.L. Faris, "Cultural Isolation and the Schizophrenic Personality," American Journal of Sociology 40 (September, 1934):155-169.

[27] Ibid. p. 155.

> person is surrounded by other races and nationalities, any person who, from pampering in infancy or other cause, fails to establish normal social relations, finds it difficult or almost impossible to do so later."[28]

In 1954, E. Gartly Jaco, defining social isolation as the cutting off or minimizing of contact and communications with others, found that those communities having high rates of schizophrenia will also have a high degree of social isolation.[29] Jaco reported that in the Austin, Texas communities that have the highest rates of schizophrenia the residents knew significantly fewer names of their neighbors, significantly more were renters than home owners, and significantly fewer were members of lodges or fraternal organizations than were residents in areas which had the lowest rates of schizophrenia. Jaco disagress with Faris and Park in that he views these correlations between indicators of isolation and schizophrenia as a situational condition and as a precipatating rather than a subjective predisposing influence. He concludes that "overall research on the mental disorders of persons of advanced age as well as those of younger age groups, have clearly demonstrated that those labelled as mentally ill, both the hospitalized

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[28]R.E.L. Faris, "Demography of Urban Psychotics with Special Reference to Schizophrenia," American Sociological Review 3 (April 1938):208.

[29]E. Gartly Jaco, "The Social Isolation Hypothesis and Schizophrenia," American Sociological Review, 19 (October, 1954):567-577.

and nonhospitalized populations, are considerably more socially isolated than are their healthier community peers."[30]

In 1956, S. Kiersen Weinberg defined social isolation as it pertains to or contributes to schizophrenia as having the following characteristics:

> "First, it is a situational condition in which the social contacts, especially intimate contacts, are minimal or nonexistant largely because of inaccessibility, (2) defense withdrawal to avoid the decline of self-esteem because of rejection or exclusion by ones associates, and (3) a dynamic inability to cultivate or to sustain social relations."[31]

Voluntary privacy which can be a creative or rehabilitative experience, and which reverses the influence of those types of isolation, is not included in the definition.

Weinberg felt that social isolation can be confirmed by a community pattern of non-relatedness, of impersonalism, and of indifference:

> "The individual resident who acknowledges the privacy of other persons and who depersonalizes others by indifference may adopt such attitudes towards himself. Thus inhibiting the initiation of social contacts. ...This pattern means that amidst the reciprocity of the impersonal and non-personal some persons become deprived of the necessary social stimulation to sustain a coherant and purposeful identity and may breakdown."[32]

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[30]Ibid. p. 577.

[31]S. Kierson Weinberg, "The Relevance of the Forms of Isolation to Schizophrenia," International Journal of Social Psychiatry 13 (1956):33.

[32]Ibid. p. 34-35.

Kohn and Clausen[33] have reported that persons predisposed to schizophrenia may drift into markedly isolated areas because of their desire to escape emotional demands of interpersonal relationships, their aim being to be left alone. Their emotional distubrances may interfere with their interpersonal relations as well as with their employment and hence they may be coerced by non-marriage and/or by economic deprivation to move into transient areas.

In a study to see if people with a particular personal characteristic who were living in a community where that characteristic is less common should have a higher rate of psychiatric hospitalization than people with the characteristic living in communities where it is more common, Wechsler and Pugh[34] found their hypothesis was supported most of the time. The study was conducted on first admissions to Massachusetts hospitals for the three year period centered on the 1960 census.

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[33]Melvin L. Kohn and John A. Clausen, "Social Isolation and Schizophrenia," American Sociological Review 20 (June, 1955):265-273.

[34]Henry Wechsler and Thomas F. Pugh, "Fit of Individual and Community Characteristics."

The findings of Margery Fisk Lowenthal[35] in which comparisons between a community sample and a group of 534 elderly persons hospitalized for psychiatric reasons for the first time at age 60 or over revealed very dramatic differences between the two groups on a number of measures of social interaction. The hospitalized, just before admission rank low in terms of both family and extra family social contacts and in terms of variety of organizational affiliations. These decrepancies continue to hold when age, sex and socioeconomic status are held constant. In addition, as Lowenthal points out, as these individuals get older it may be even more difficult to maintain such relationships with the lack of family support.

Many questions remain regarding the isolation hypothesis. In studying individual etiology, Kohn and Clausen[36] conclude that, in terms of process, social isolation is to be viewed as a sign of an individual's interpersonal difficulties which have become so great that he is no longer capable of functioning in interpersonal relationships.

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[35]Marjorie Fiske Lowenthal, "Social Isolation, Mental Illness in Old Age," American Sociological Review 29 (1964):54-70; Marjorie Fiske Lowenthal, "Antecedents of Isolation and Mental Illness in Old Age," Archives of General Psychiatry 12 (March, 1965):245-254.

[36]Kohn and Clausen, "Social Isolation and Schizophrenia."

The question for these authors of how that person got that way is not a question of social isolation, per se; it is rather a series of problems starting with the question of what are the conditions that produce alienation, and continuing with the processes by which interpersonal experiences translate this base into interpersonal failure. In their study they found that in persons who had been isolated at an early age, age 13 to 14, isolation was not a major predisposing factor in either schizophrenia or manic depressive psychoses.

The authors are left unsatisfied by the isolation hypothesis. As they state, the social isolation hypothesis initially was that isolation of any person for an extended period of time results in schizophrenia. Later, the process was seen as far more complex in that a particular type of person living in particular social setting becomes rebuffed and rejected by his peers. After fruitless attempts to gain acceptance the individual finally withdraws into a shell of isolation. They question why this complex series of events is seen as necessary to the schizophrenia process. They ask, why is isolation siezed upon as the crucial element that leads to schizophrenia? Why was the individual rebuffed in the first place? Why did he react so extremely to rebuff as to withdraw from all social interaction? They ask if perhaps his behavior before he became isolated indicates that personality development was already quite abnormal. These questions persist.

Migration and Ethnicity

That individuals will find difficulty in maintaining social relationships in communities can easily be applied to those communities with foreign born populations. Persons who have a different cultural background from others in the community in which they reside may have many problems in making adjustments to a way of life in that community.

A number of articles have appeared over the years dealing with migration and mental illness or immigration and mental illness. One of the first was a series of studies by Odegaard in Norway.[37] He studied Norweign born citizens living in the state of Minnesota. He found higher ratios of disorder in these immigrants than in samples of Norwegians who remained in Norway or native born Americans. Odegaard's conclusions are expressed by two possible explanations: First, that the mental and physical hardships of immigration and immigrant life may cause mental derangement in persons who would otherwise have remained sound, and second, the immigrant may comprise a higher percent of

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[37]Ornulv Odegaard, "Emigration and Insanity; A Study of Mental Disease Among the Norwegian-born Population of Minnesota," Acta Psychiatrica et Neurologica Scandanavia, Supplement 4 (1932); Ornulv Odegaard, "Emigration and Mental Health," Mental Hygiene 20 (October, 1936):546-553; Ornulv Odegaard, "The Distribution of Mental Disease in Norway," Acta Psychiatrica et Neurologica Scandanavia 20 (1945):247-284.

psychopathic or early psychotic types than the rest of the population of Norway. He felt that this might, for instance, have some connection with the tendency toward restlessness and social maladjustment which is characteristic of such personalities. He states "It is evident that these two possible factors are both at work. The problem is merely to determine their relative importance."[38] Odegaard notes that as for the mental disease of immigrants a similar interaction of the above constitutional and environmental factors seem to offer the best explanation of their relatively high incidence. He postulates the tremendous excess of senile and arteriosclerotic psychoses probably is the result of predominantly environmental factors, the physical and mental strain of immigrant life which is particularly hard on the age group above 40. For schizophrenia and manic depressive insanity, on the other hand, the specific difficulties of immigration seems to be of less importance than the constitutional make-up of the immigrants themselves. He states, however, that "this does not necessarily mean that these diseases are absolutely independent of all environmental factors."[39]

The social factors that influence human beings so deeply as to affect their mental health are of an international character. The psychological consequences of enforced

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[38]Ornulv Odegaard, "Emigration and Mental Health": 548.

[39]Ibid. p. 553

migration have been studied by Tyhurst.[40] He studied 48 displaced persons who were seen as patients at a psychiatric institute and who came from Europe to Canada. After an initial period of over-activity and euphoria, the migrant gradually becomes aware of language difficulties, differences in custom and value, and a sense of not belonging to the community.

He found that social mobility is the central social dynamic for the understanding of both the various determining factors and reaction of migrants. He states that it operates horizontally as the individual moves from one culture to another and vertically as the individual moves from one social class to another. It is important to appreciate that the individual who moves from culture to culture or class to class is not only faced with differences there will be in the content of the various value systems, rather, the crucial element is the amount of change. In other words, no matter what the norms or values of the particular cultures are, the immigrant is faced with the change in them. The psychological consequences of this process of change in terms of increasing individualism, isolation, personal insecurity and necessity

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[40]Libuse Tyhurst "Displacement and Migration; A Study in Social Psychiatry," American Journal of Psychiatry 107 (1951):561-568.

for reorientation of values, together with an increased awareness of the relativity of previous stable values, all leading to failing communication and security and anxiety, lie behind the psychodynamics of the migrant. According to the study, the migrant develops a feeling of helplessness, which in turn evokes frustration (leading to symptoms of anxiety and depression), egoism (leading to somatic complaints) and aggression (leading toward paranoid trends and hostilities toward the natives).

In an early review of the literature, Hare and Camb[41] discuss the relationship of culture, migration and isolation with mental illness. They summarize it very well by concluding that

> "From a survey of the principal facts which are revealed by the ecological approach to mental disease, it is possible to distinguish, in every environmental situation, a constant underlying factor necessary for mental health. This factor, which may be called social communication,' reflects the fact that a human beings normal mental development depends upon his being able to borrow a sense of security from a community by whom he is accepted as a member. Without such a sense of security he can neither develop nor maintain the degree of mental integration which has become normal for social man. The price each individual must pay for this sense of support is conformity with the cultural traditions of his community."[42]

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[41] E. H. Hare and M.D. Camb, "Ecology of Mental Disease," Journal of Mental Science 98 (October, 1952): 579-594.

[42] Ibid. p. 592.

Thus a person may be deprived of social communication either because his social environment does not provide sufficient stability or control, or because he cannot or will not conform with its conventions, in either case the social isolation which results constitutes a threat to his mental health.

In an early monograph entitled Acculturation and Illness, in 1948 by Ruesch, Jacobson, and Loeb,[43] the authors discuss various problems of the immigrant in terms of mortality rates. They found that the influence of acculturation upon mortality rates can be studied by comparing the mortality rates of immigrants to the mortality rates prevailing in the country of origin. British, Irish, and German people have a high mortality rate, as such, in America, however, these people have a higher rate than in their old country. In contrast, Austrians, Hungarians, Russians, principally Jews, and Italians have the same or lower mortality rate than in their own country. The authors suggest that though there exist differences in economic circumstances which might cause this differential mortality rate, one can also advance the concept that the northern western European, primarily the Anglo-Saxon group, merely

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[43] Jurgen Ruesch, Annemarie Jacobson and Martin B. Loeb, "Acculturation and Illness," Psychological Monographs: General and Applied 62 (1948):Whole No. 292.

exaggerate the pre-existing trend of high mortality when put under stress and strain. Furthermore, they state, the English, Irish, and Germans tend to make the greatest effort to acculturate to the American core culture, because, theoretically, they can succeed in doing so within their life time. In comparison, the central eastern and southern European group are frequently so remote from the American core culture that they never actually attempt to acculturate. They prefer instead, to settle in their own minority group thus spreading acculturation over several decades and leaving some of the efforts to their more flexible children.

In discussing mental disorders, the authors find that foreign-borns tend to have psychoses which express conflict with the environment and which are connected with abnormal physical conditions and age. The six most frequent mental diseases found in foreign-borns are paranoic, alcoholic, traumatic, senile, symptomatic and arteriosclerotic psychoses. Foreign-borns do not tend to have temporary forms of mental disorders with short hospital residence. If they are sick, they appear to suffer from more severe psychoses. Among the foreign-borns there appeared to be a differences between naturalized and non-naturalized persons. The naturalized foreigns have fewer and less severe psychoses than the non-naturalized persons. Foreigns who become citizens had psychoses which are either related to their poor physical conditions or

which conflict with the environment.

As for the residential location of the foreign-born Dunham in 1947 strongly dismisses the drift hypothesis as an explanation.

> "Let's consider for a moment the foreign-born communities in our cities. Certainly, no one can seriously contend that these communities have been settled by people who have drifted into these areas because of personality instability. Rather have they represented a starting point for various immigrant groups as they have struggled for a better life and a more secure economic niche in our society. In these communities, like others, people are born, grow up, and die, and the sons and daughters of these immigrant groups have in many instances succeeded in getting out of these communities and assuming larger and more significant roles in the life of the community. This is so well known that it hardly bears repeating."[44]

The original Faris and Duhnam[45] study concluded that the incidence rates of schizophrenia for racial and foreign-born groups were higher in areas where these groups were few in number. They stated that the rates for manic depressive illness showed a random pattern with respect to both the stability of the area and to the racial or foreign-born proportions.

In re-analyzing the Chicago data, Mintz and Schwartz[46] found that after adjusting for the higher over-all rates among the foreign-born, the foreign-born

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[44]H. Warren Dunham, "Current Status of Ecological Research in Mental Disorder": 326-327.

[45]Faris and Dunham, Mental Disorders in Urban Areas.

[46]Norbert L. Mintz and David T. Schwartz, "Urban Ecology and Psychosis" International Journal of Social Psychiatry 10 (Spring, 1964):101-118.

population, in areas where they were relatively few, did not have significantly higher rates of schizophrenia or manic-depression than did the native born. The reason given for this discrepant finding was that Faris and Dunham treated all the foreign-born as an homogeneous group, although in fact they are actually composed of many ethnic groups. They argued that if ethnicity and residence does not affect the incidence of psychosis, one would expect to find lower rates when foreign-born groups live in an area primarily populated by their own members. They criticized Faris and Dunham because of the assumption that "other foreign-born" is not the same as "other foreign-born of the same ethnic background." They ask, "why should the foreign-born Irish benefit psychologically from living in a foreign born area which is predominantly Puerto Rican?"[47] Mintz and Schwartz argue that since foreign-born areas differ in the distribution of the dominant ethnicity, the calculation of foreign born-rates homogeneously will lead to the kind of contradiction they find in Faris and Dunham's data. They suggest that unless separate analyses be performed by discrete ethnic groups, the problem will continue. Schwartz and Mintz[48] hypothesized that if a

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[47] Ibid. p. 105.

[48] David T. Schwartz and Norbert L. Mintz, "Ecology and Psychosis Among Italians in 27 Boston Communities," Social Problems 10 (1963):371-374.

single foreign-born group were studied, they would find the same results as for racial groups, an inverse relationship between the density of an ethnic group in the community and the incidence of schizophrenia and of manic-depressive psychosis among this group. They also expected to find no relationship between a community's economic status and the incidence of psychoses for a single ethnic group. Their rationale for this was in urban areas, communities with low socio-economic status usually had a high proportion of foreign born. However, each ethnic group constituted only a small minority thus suggesting the inverse relationship. In examining admission records for Italian born and second generation Italians admitted for the first time to public and private mental hospitals in Massachusetts from July 1, 1956 to December 31, 1958 they found that communities high in Italian-born had lower incidence rates of psychoses among their Italians than did communities low in Italian density even after the possible effects of socio-economic status was eliminated. As hypothesized no significant relationship existed between hospitalization rates and socio-economic status when Italian density was controlled.

Mintz and Schwartz posit that each ethnic group experiences its ethnicity differently.

> "...different ethnic groups vary in the extent to which the second generation is integrated with, or in conflict with, the immigrant generation. Ethnic groups having a pattern of immigrant-second generation

> cohesion may experience more of an ethnic community than those with immigrant-second generation disunity of conflict. These factors should influence the degree to which psychosis rates for an ethnic group are affected by the proportion of this group in the community."[49]

In terms of just how community dynamics actually influence psychosis, they suggest three possibilities: a) various ethnic groups may have differential tolerances for deviation among members. If a community is in some way disrupted, "stabilized psychotics existing 'at peace'" may arbitrarily be labelled as a "case" when no longer sheltered by the community's normal functioning. b) Community dynamics may precipitate a dormant psychosis. An influx of a "hostile" ethnic group may play a role in the breakdown and hospitalization of borderline individuals; and c) different communities have different styles of life, which in turn will influence child rearing practices in addition to the values and opportunities available to the growing personality. The immigrant going through a process of acculturation is going through a similar "microgenic development process."[50] These three explanations are not mutually exclusive.

Foreign-born groups are known to vary in their degree of clannishness, retention of their native mores,

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[49]Mintz and Schwartz, p. 105.

[50]Ibid., p. 116.

their integration with the dominant culture and their adaptation of a new language.[51]

Different ethnic groups have also been shown to manifest different psychiatric symptoms. The early studies, mostly anthropological in nature, point out that the psychiatric researcher should be aware that behavior identifiable as pathological varies from culture to culture.[52]

Later studies, began to look at comparisons of mental illness across cultures. It was through these studies that it became recognized that ethnicity and

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[51]Jerome K. Myers, "Assimilation to the Ecological and Social Systems of a Community," American Sociological Review 15 (June, 1950):367-372; Bertram H. Roberts and Jerome K. Myers, "Religion, National Origin, Immigration and Mental Illness," American Journal of Psychiatry 110 (April, 1954): 759-764; Marvin K. Opler, Culture, Psychiatry and Human Values, Springfield, Illinois: Charles C. Thomas, 1956; Kenneth Soddy, Cross Cultural Studies in Mental Health: Identity-Mental Health and Value Systems, London: Tavistock Publications, 1961; Abraham A. Weinberg, Migration and Belonging, The Hague: Martinus Nijhoff, 1961; Jane M. Murphy and Alexander H. Leighton ed., Approaches to Cross Cultural Psychiatry, New York: Cornell University Press, 1965; Marvin Karno, "The Enigma of Ethnicity in a Psychiatric Clinic," Archives of General Psychiatry 14 (1966):516-520, to name the most prominent studies.

[52]Irving A. Hallowell, "Culture and Mental Disorder," Journal of Abnormal and Social Psychology 29 (April-June, 1943):1-9; John M. Cooper, "Mental Disease Situations in Certain Cultures: A New Field of Research," Journal of Abnormal and Social Psychology 29 (April-June, 1934):10-17; P.M. Yap, "Mental Diseases Peculiar to Certain Cultures: A A Survey of Comparative Psychiatry," Journal of Mental Science 97 (April, 1951):313-327.

culture may play a considerable role in determining psychopathology.[53]

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[53]Marvin K. Opler and J.L. Singer, "Ethnic Differences in Behavior and Psychopathology: Italian and Irish," International Journal of Social Psychiatry 2 (1956) :11-22; Alberto C. Sequin, "Migration and Psychosomatic Disadaptation," Psychosomatic Medicine 18 (1956):404-409; B. Fantl and S. Schiro, "Cultural Variables in the Behavior Patterns and Symptom Formation of 15 Irish and 15 Italian Female Schizophrenics," International Journal of Social Psychiatry 4 (Spring, 1959):245-253; P.H. Melville, "Communication in Illness: The Relationship of National Origin to Symptoms and Diagnosis," Canadian Medical Association Journal 90 (1964):1435-1441; Arnold M. Rose, "The Prevalence of Mental Disorders in Italy," International Journal of Social Psychiatry 10 (Spring, 1964):87-100; Joan L. Burke, Hugh G. LaFave and Grace E. Kurtz, "Minority Group Membership as a Factor in Chronicity," Psychiatry 28 (1965):235-238; E.X. Freed, "Identification of Hospitalized Jewish Psychiatric Patients: An Exploratory Study," International Journal of Social Psychiatry 11 (1965):110-115; Eugene B. Piedmont, "Ethnic Differences in Schizophrenia Development," Psychiatric Quarterly 40 (1966):647-658; Eugene B. Piedmont, "Ethnicity and Schizophrenia: A Pilot Study," Mental Hygiene 50 (1966):374-379; H. Fabrega, Jr., "Ethnic Differences in Psychopathology," Archives of General Psychiatry 19 (August, 1968): 218-226; Richard Kelly et al., "Ethnic Origin and Psychiatric Disorders in a Hospitalized Population," Canadian Psychiatric Association Journal 15 (1970):177-182; A. Pokorney and J. Overall, "Relationships of Psychopathology to Age, Sex, Ethnicity, Education and Marital Status in State Hospital Patients," Journal of Psychiatric Research 7 (February, 1970):143-152; Marie A. Mathewson, "Is Crazy Anglo Crazy Italian?" Psychiatric Annals 5 (1975):79-83.

In a series of studies spanning over several decades Benjamin Malzberg's papers on mental hospital admissions in New York State have made a great contribution to the literature of psychiatric illness and its relationship to migration. In this early work, he found that the admission rate of the foreign-born exceeded that of the natives for each group examined and this was more marked for females than males. There was a marked differential for both sexes for schizophrenic illnesses, the rates for foreign-born exceeding those for the natives by 51 percent for males and 44 percent for females. In the manic-depressive, cerebral arteriosclerotic and senile groups the differentials for females were about 40 to 50 percent, while those for males were only about 10 to 15 percent. Malzberg stated that the higher rates for females is explained by the fact that foreign-born females find immigration a more difficult process than males.[54] He agreed with Odegaard who said that there is a greater tendency for pre-schizophrenic individuals to migrate.

The female migrants according to Odegaard, had less opportunity to choose, as in most cases they simply followed their father, husband or fiance, and therefore were not self-selected for emigration. In their case, the

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[54]Benjamin Malzberg, "Mental Diseases Among the Native and Foreign-Born White Population of New York State," Mental Hygiene 39 (October, 1955):545-563.

high incidence of mental disease, in general, and of the organic disorders in later life, in particular, was regarded as due to the wear and tear of the adaptive difficulties to which "the power of resistance is weaker in the female sex."[55]

Malzberg[56] reviewed the evidence with respect to differential rates among the native white and foreign-born white populations in the State of New York on the basis of average annual rates of first admissions to all mental hospitals for the three years 1939 thru 1941. He noted that the crude data show that the foreign born comprised approximately one third of the total first admissions yet they formed only 22% of the total white population of New York State in 1940. The average crude annual rate of first admissions per 100,000 corresponding population was 175.1 for the foreign white population, compared with 91.8 for the native white population. Malzberg was correct to point out that the compositions of the two populations were different. As it turned out, after correcting for the age-sex disparity Malzberg found that the foreign-born had lower rates of first admissions for

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[55]Odegaard, "Emigration and Insanity.":87

[56]Malzberg, "Mental Diseases Among the Native and Foreign-Born White Population of New York State" (1955).

the alcoholic psychoses, the differences with respect to manic depressive psychoses and general paresis were so small as not to be significant, and only in connection with schizophrenia did the foreign born have an excess rate over the native born.

In a later monograph Malzberg, in collaboration with Lee,[57] compared native American migrants to New York with foreign born immigrants. Their findings were that while the admission rate for both categories exceeded that of the natives of New York State, the differential was very much higher for the native interstate migrant of all age groups between 30 and 50, and for both sexes. They then proceeded to analyze the admission rate for those who migrated within the preceeding five years and compared it to that of earlier migrants and non-migrants. The results showed that migrants of an earlier period had only a slightly higher admission rate than non migrants, while recent migrants had a very high overall increase in admission rates, reaching its peak with a five-fold increase in the over-60 age group. The authors were careful to note how atypical New York State is, with its highly urban population and a large part of its population

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[57]Benjamin Malzberg and Everett S. Lee, Migration and Mental Disease, New York: Social Science Research Council, 1956.

consisting of racial, ethnic and religious minorities. "They conclude by assuming that the very atypicalness of New York State is in itself highly attractive to less stable individuals."[58]

Locke and Duvall, in examining 1960 data, found a similar pattern for the native-born moving from their state of birth to Ohio. They report that "the native-born migrant has a significantly higher admission rate than the resident of the state of birth."[59] In examining the foreign-born, 40% of the foreign-born males admitted to Ohio public mental hospitals were from three countries: Austria-Hungary, Italy, and Poland, while among the foreign-born females, 38% of the admissions were from Austria-Hungary, Germany, and Poland. For both males and females, the highest rates occurred among those from Austria-Hungary and Poland. In contrast to Malzberg and Lee, the authors found that, "Based on three and one-half years of admission data to the Ohio public mental hospital system the foreign-born have lower admission rates than the native-born. This findings is at variance with earlier studies whose results generally reveal higher rates for the foreign born."[60]

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[58]Abraham A. Weinberg, Migration and Belonging:30

[59]Ben Z. Locke and Henrietta J. Duvall, "Migration and Mental Illness," Eugenics Quarterly 11 (1964):220

[60]Ibid.

Benjamin Malzberg produced dozens and dozens of papers relating mental hospitalization rates and the foreign-born in New York State during his career. Part of his ability to write the papers was due to the fact that he had access, in those early years, to data which were much more detailed in describing the foreign-born patient population, such as length of stay in this country, than is presently available. He described, in detail, the hospitalization rates of specific ethnic groups in a series of eight articles published in 1963 and 1964.[61]

Malzberg reported that it was difficult to make comparisons between foreign-born and native-born hospitalization rates because the age and sex distributions of the two were very different. In general, he found

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[61]Benjamin Malzberg, "Mental Disease Among Irish born and Native Whites of Irish Parentage in New York State, 1949-1951," Mental Hygiene 47 (January, 1963):12-42; Benjamin Malzberg, "Mental Disease Among Italian-Born and Native Whites of Italian Parentage in New York State, 1949-1951," Mental Hygiene 47 (April, 1963):300-332; Benjamin Malzberg, "Mental Disease Among Polish-Born and Native Whites of Polish-Born Parentage in New York State, 1949-1951," Mental Hygiene 47 (July, 1963):421-451; Benjamin Malzberg, "Mental Disease Among Russian-Born and Native-Born of Russian-Born Parentage in New York State, 1949-1951," Mental Hygiene 47 (October, 1963):649-678; Benjamin Malzberg, "Mental Disease Among English-Born and Native Whites of English Parentage in New York State, 1949-1951," Mental Hygiene 48 (January, 1964):32-54; Benajmin Malzberg, "Mental Disease Among German-Born and Native Whites of German Parentage in New York State, 1949-1951," Mental Hygiene 48 (April, 1964):295-317; Benjamin Malzberg, "Mental Disease Among Native and Foreign-Born Whites in New York State, 1949-1951," Mental Hygiene 48 (July, 1964):478-499; Benjamin Malzberg, "Mental Disease Among Native Whites in New York State, 1949-1951, Classified According to Parentage," Mental Hygiene 48 (October, 1964): 517-536.

that the Russians and the Poles had lower rates than all foreign-born and that the Germans, although higher than the Russian and Polish rates, had lower rates than the average for all foreign-born. He reported that the Italians and the Irish have higher rates. In studying the admission patterns for New York State, he noted that the urban-rural differences played a strong role in the observed rate differentials. The foreign-born tend to reside in more urbanized areas.[62]

Malzberg felt that variations in rates for specific diseases were related to cultural as well as demographic aspects of the foreign-born populations he studied. "The general over-all decrease in the level of rates of first admissions from one generation to the succeeding generation must be associated with rising levels of social adjustment.... In addition, one cannot ignore the influence of the migratory factor upon the foreign-born.[63] He also noted, "it is known that attitudes towards the desirability of treating a mental disease differ from one population to another."[64]

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[62]Malzberg, "Mental Disease Among Native and Foreign-born Whites.

[63]Malzberg, "Mental Disease Among Irish Born":42

[64]Malzberg, "Mental Disease Among Italian-Born":322

In sum, Malzberg did not reach any firm conclusions concerning hospitalization among the foreign-born. He did, however, note that successive generations seemed to have lower rates and that the census should better reflect third and older generations so as to help untangle the incredibly complex relationships buried in the data. He concludes that:

> "There is a belief that emigrants include a proportion of psychopathic personalities higher that is found among non-migrating population. There is some support for this derived from the data on internal migration. But to answer this question properly with respect to international migrants requires an international system of reporting mental disorders, similar to that employed for the reporting of physical diseases. Unfortunately, it is not yet possible to make such comparisons on a sound basis with respect to mental disease. Therefore, a present we can only speculate on interpretations as to the possible constitutional differences between migrating and non-migrating populations."[65]

Criticism of the Ecological Approach

The major criticisms of the ecological approach to the study of mental illness focus primarily on the assumptions implicit in that research. Clausen and Kohn[66] argue that although they cannot wholly accept the ecological model, it is not completely lacking in validity either. They question whether there is a relationship between the characteristics of a population group, as expressed by

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[65]Malzberg, "Mental Disease Among Native and Foreign-born Whites":499.

[66]Clausen and Kohn, "The Ecological Approach in Social Psychiatry."

various measures of the condition of their environment, and the number of persons in that group who become mentally ill. This argument tears at the very heart of the "drift hypothesis" controversy. Do such individuals represent the residue of a sifting process where those unable to achieve success because of their illness settle?, or do the surroundings precipitate illness in those with such a predisposition?

The authors are skeptical that independent variables can be found which are responsible for mental illness and that those measures adequately represent the conditions of life of the mentally disturbed individuals. They feel that since a key variable "social climate," like smoke, is subject to eddies and pockets in communities, it is very difficult to measure. This "social climate" can be viewed as a matric of family relationships, peer-group activities or dominant value systems.

They question whether the individuals involved are typical of their neighbors or that mentally disturbed persons are sufficiently exposed to be influenced by the social characteristics of their neighbors. This is particularly true as one examines the literature on isolation. What role does social environment play to an isolated individual?

Their last argument deals with the labelling process itself. They are uncertain as to what role the

characteristics of an area plays in defining and labelling a "case" of mental illness. Since the utilization patterns are different for each group or community and can be shown to vary so dramatically, what then is the relationship between the prevalence of disorder and the identification of it?

Kennedy[67] argues that the key notions of stability and ethnicity are not given adequate consideration in the ecological model. He argues with Faris and Dunham when they state:

> "The characteristics of the population in these zones appear to be produced by the nature of life within the zones rather than the reverse. This is shown by the striking fact that the zones retain all their characteristics as different populations flow through them. ...Each zone, however, retains its characteristics whether its habitants be native-born, foreign-born or Negro."[68]

He suggests:

> "If one holds the view that native-born, foreign-born, and Negroes are bearers of culture, a reasonable assumption, then migration of different cultures through these zones is also taking place. Yet, the cultures of these different groups at any given point of time in any given zone, according the above statement, are ostensibly playing no role and have no effect upon the zone's characteristics."[69]

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[67]Mark C. Kennedy, "Is There an Ecology of Mental Illness?" The International Journal of Social Psychiatry 10 (Spring, 1964):119-133.

[68]Faris and Dunham, Mental Disorders in Urban Areas:4

[69]Kennedy:121.

Kennedy questions if this is the case, why bother studying ethnic differences? He states that

> "This dimunition of the role of culture is singularly unfortunate, for what this rules out are questions concerning how beliefs, values, customs, etc., within a group might create behavioral disorders..."[70]

He objected to the Faris and Dunham's measures of stability or instability;

> "The percentage of foreign-born was said to measure or index instability... a question solved by a decision and not by any empirical set of facts. ...The other index of stability was home ownership. Those not owning homes magically become symbolic of instability.
> The authors apparently feel that property owners are good, solid folks, and those who rent from them are not."[71]

Kennedy argues that it is quite possible that a given culture when transplanted might produce behaviors diagnosable as mental illness and that this might occur quite apart from conflict between this group and the disparate groups around it. This again suggests a labelling argument.

The other major criticisms have been mentioned earlier in terms of studies with contradictory findings. It has been stated that the contribution of various measures of the environment need to be tested as contributors to mental illness.

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[70] Ibid. 122

[71] Ibid.

About the one point of agreement in the literature is that the phenomenon of mental illness and its distribution and causes are not as simple and straightforward as it once might have been suggested. The authors agree that this area is incredibly complex and a lot of concepts have to be unravelled before one can make definitive statements about the role of various causal agents in psychopathology.

It should be repeated here that mental disorders, of course, includes many different types and a great variety of observable deviations in the mental, emotional and behavioral spheres of man. Certain of these deviations, where etiology is still obscure, may prove to be grounded in the genetic structure. Others may be caused by injuries or infections in the organisms before or after birth, and still others are related to the nature of the social relationships that binds our society together.

The research in this field is continuing and as new findings are reported one must stop, reflect and, quite often, question some basic assumptions before moving on. This is all well and good if one views the purpose of research and science as not producing answers to our questions, but rather as producing better questions.

Chapter III will explain the conceptual framework and methodology used in this study.

Chapter III

CONCEPTUAL FRAMEWORK AND METHODOLOGY

Statement of Hypotheses Based on Existing Literature

Marginality

The literature reviewed in Chapter II makes recurrent references to the etiological nature of migration, isolation and marginality in mental illness. The literature also suggests the socio-economic status of communities may be a contributing factor in differential mental illness rates. This study empirically tests these propositions and assesses the relative contributions of various socio-demographic measures in predicting mental illness among the foreign-born.

Mintz and Schwartz[1] argue that the foreign-born are not a homogeneous group. In order to better understand the influence of community dynamics on mental illness one must perform separate analyses by discrete ethnic groups. They suggest that this is essential since the dominant ethnicity and the ethnic mix vary in geographical distribution.

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[1]Mintz and Schwartz, "Urban Ecology and Psychosis."

Schwartz and Mintz[2] hypothesized that when single foreign-born groups are studied there would be an inverse relationship between the density of an ethnic group in a community and rate of mental illness among that group. They argued there would be no relationship between a community's economic status and the incidence of mental illness. Although communities in urban areas with low socio-economic status usually have a high proportion of foreign-born, each ethnic group constitutes only a small minority. Their data confirmed their hypotheses.[3]

It is our intention to replicate these findings for the Italian-born persons in New York City and to further test these hypotheses for other foreign-born groups.

Hypothesis 1: Isolation

There is an inverse relationship between the density of an ethnic group in a community and the rate of mental illness among that group. Expressed in the terms of Wechsler and Pugh;[4] People with a particular personal characteristic (foreign birth in a specific country) who are living in a community where that characteristic is less common should have a higher rate of psychiatric hospitalization than people with the characteristic living

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[2]Schwartz and Mintz, "Ecology and Psychosis Among Italians in 27 Boston Communities."

[3]Ibid.

[4]Wechsler and Pugh "Fit of Individual and Community Characteristics and Rates of Psychiatric Hospitalization."

in communities where it is more common.

Operationally defined the hypothesis states that there is a negative correlation of the ratio of the number of patients born in a specific country to the number of persons born in that country and the ratio of the number of persons born in that country to the total population. These ratios are traditionally expressed as rates. The unit of observation is the health area.

Algebraically expressed:

$$r_{xy} < 0$$

Where: x is the rate of ethnic specific foreign-born hospitalizations,

y is the rate of persons of ethnic specific foreign-born origin in the total population.

r is the Pearson Moment Correlation Coefficient.

Hypothesis 2: Socio-Economic Status

There is no relationship between rates of mental hospitalization for a specific foreign-born ethnic group and measures of socio-economic status of communities.

Operationally defined the hypothesis states that the correlation of the ratio of number of patients born in a specific country to the number of persons born in that country with various measures of socio-economic status will be near zero.

Algebraically expressed:

$$r_{xy} = 0$$

Where: x is the rate of ethnic-specific foreign-born mental hospitalizations and

y is a measure of the socio-economic status of communities.

r is the Pearson Product Moment Correlation Coefficient.

Areal Change

Many authors, among them Park, Faris and Hare and Camb suggest that communities which are in a state of flux may put undue stress on certain individuals.[5] Cultural isolation due to migration may be a key precipitating feature in the etiology of mental illness. Perhaps foreign-born persons who remain in their community after their ethnic group has out-migrated also face the effects of displacement as described by Tyhurst.[6]

Mintz and Schwartz have stated the converse, the influx of a "hostile" ethnic group may play a role in precipitating mental illness in certain individuals.[7] This study assesses the relationship of ethnic-specific foreign-born hospitalizations and community change.

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[5]Park, "Human Migration," Faris, "Cultural Isolation" and Hare and Camb, "Ecology of Mental Disease."

[6]Tyhurst, "Displacement and Migration."

[7]Mintz and Schwartx, "Urban Ecology and Psychosis."

Hypothesis 3: Ethnic Change Due to Loss of Like Population

There is a positive relationship between the change in the ethnic composition of communities due to an out-migration of a specific foreign-born ethnic group and the rate of psychiatric hospitalization for that group.

Operationally defined the hypothesis states that there is an anticipated positive correlation between the rate of psychiatric hospitalizations for patients born in a specific country and the rate of decline from 1960 to 1970 in the number of persons from that country in the community.

If true, it would suggest a patient of that ethnic group might very well be "areal residue" rather than having "drifted" to that area. In demographic terms, one might think of these people as "stayers" who have resisted moving even after the social and cultural links to the community are gone.

Algebraically expressed:

$$r_{xy} > 0$$

Where: x is rate of ethnic specific foreign-born mental hospitalizations and

y is rate of decline in the number of persons from that country from 1960 to 1970.

r is the Pearson Product Moment Correlation Coefficient.

Hypothesis 4: Influx of New Ethnic Groups

There is a positive relationship between the change in ethnic composition of communities due to an in-migration of dissimilar racial and ethnic groups and rate of psychiatric hospitalization of specific foreign-born ethnic groups. This hypothesis restates a premise of Mintz and Schwartz:[8] community dynamics may precipitate a dormant psychosis in borderline individuals thru the influx of what the authors call "hostile" ethnic groups. For most white European-born populations the new groups in northern urban areas are blacks and Puerto Ricans.

Operationally defined the hypothesis states that a positive correlation is expected between the rate of psychiatric hospitalization for ethnic-specific foreign-born groups and the rate of increase in number of blacks and Puerto Ricans in those areas from 1960 to 1970.

Algebraically expressed:

$$r_{xy} > 0$$

Where: x is the rate of ethnic specific foreign-born mental hospitalizations and

y is the rate of increase in the number of black and Puerto Ricans from 1960 to 1970.

r is the Pearson Product Moment Correlation Coefficient.

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[8]Ibid

Development of General Prediction Models

There is a growing body of literature on the use of socioeconomic data as a tool in the assessment of need for mental health services in communities.[9] Based upon this literature it is possible to build ecological models which will predict differential rates of mental hospitalization utilizing available demographic as data as contextual measures of social environment from which the patients come.

Hypothesis 5: Prediction

It is hypothesized that substantial variation in the ethnic-specific foreign-born mental hospitalization rates may be accounted for using census and other socio-demographic data as independent variables in a linear regression model.

Operationally defined, it is anticipated that using

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[9]National Institute of Mental Health, A Model for Estimating Mental Health Needs Using 1970 Census Socioeconomic Data, DHEW-Publication No. (ADM) 74-63, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 1974; Harold F. Goldsmith and Elizabeth Unger, "Social Area Analysis: Procedures and Illustrative Applications Based Upon the Mental Health Demographic Profile System." In U.S. Bureau of the Census, Census Tract Papers, Series GE-40 No. 9, Social Indicators for Small Areas, presented at the Conference on Small-Area Statistics, American Statistical Association, Montreal, Canada, August 14, 1972. U.S. Government Printing Office, Washington, D.C., 1973:50-72; Richard W. Redick, Harold F. Goldsmith and Elizabeth L. Unger, 1970 Census Data Used to Indicate Areas with Different Potentials for Mental Health and Related Problems, National Institute of Mental Health, Statistical Methodology Reports, Series C., No. 3, Public Health Service Publication No. 2171, Washington D.C.: Superintendent of Documents, U.S. Government Printing Office, April 1971.

appropriate data from the 1960 and 1970 census and other data about the community of origin of ethnic-specific foreign-born mental hospital patients as independent variables in a multiple regression model, one can predict ethnic-specific foreign-born hospitalization rates as dependent variables.

Research Methods Used

The primary method of data analysis used for testing hypotheses 1 through 4 was the application of the product moment correlation to describe relationships between the ethnic-specific foreign-born mental hospitalization rates of areas and other variables characterizing the same geographical units. The development of the predictor model in hypothesis 5 involved the use of factor analysis to reduce the original set of variables to a smaller set of independent dimensions called factors. The variables which best described these factors were then used as independent variables in multiple regression equations to predict mental hospitalization rates of areas.

The foundation for the use of these methods and the use of socio-demographic data as contextual descriptors of the social environment in urban ecological studies has been well described in the literature.[10]

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[10]Janet L. Abu-Lughod, "Testing the Theory of Social Area Analysis: The Ecology of Cairo, Egypt," American Sociological Review 34 (April, 1969):198-211; Wendell, Bell, "Urban Neighborhoods and Individual Behavior" in Muzafer Sherif and Carolyn W. Sherif (Eds.), Problems of Youth:

In preparation for these analyses, mental hospital records of foreign-born patients were obtained and descriptive analyses employing cross tabulation were performed to examine these records. The individual patient records were then aggregated to the geographical units of observation. Measures of the foreign-born were drawn from census materials for use as denominators in the computation of hospitalization rates. It was these rates which were used as the dependent variables in this study.

Transition to Adulthood In a Changing World. Chicago: Aldine Publishing Co., 1965:235-264; Brian J.L. Berry and Philip H. Rees, "The Factorial Ecology of Calcutta" American Journal of Sociology 74 (March, 1969):445-491; James M. Beshers, Urban Social Structure; Desmond C. Cartwright, "Ecological Variables" in Sociological Methodology 1969, Edgar F. Borgatta and George Bohrnstedt (Eds.) San Francisco: Jossey-Bass, 1969:155-218; Emile Durkheim, Suicide, translated by J.A. Spaulding and G. Simpson, New York: Free Press, 1951; Scott Greer, The Emerging City: Myth and Reality, New York: Free Press of Glencoe, 1962; Jeffrey K. Hadden and Edgar F. Borgatta, American Cities: Their Social Characteristics, Chicago: Rand McNally, 1965; Leonard S. Kogan and Shirley Jenkens, Indicators of Child Health and Welfare; Robert E. Park, Ernest W. Burgess and Roderick D. McKenzie, The City, Chicago: University of Chicago Press, 1925; B.T. Robson, Urban Analysis, Cambridge: Cambridge University Press, 1969; Eshrev Shevky and Wendell Bell, Social Area Analysis, Stanford: Stanford University Press, 1955; Robert C. Tryon and Daniel F. Bailey, Cluster Analysis, New York: McGraw Hill, 1970 to cite a few.

The independent variables for this study were assembled from available sources so as to describe areas in terms of their social and demographic characteristics. These measures, used as numerators, along with their appropriate denominators were transfromed into rates for each of the geographical areas.

Sources of Data

The data on mental hospitalization was provided by the Office of Statistical and Clinical Information Systems of the New York State Department of Mental Hygiene in Albany, in the form of a computer tape containing the records of 48,442 admissions to licensed inpatient facilities in New York State for fiscal 1970 (April 1, 1969 to March 31, 1970). Each record contains information abstracted from two separate forms prepared for each patient at the time of admission to a hospital facility. These forms are the "471 DMH" or Application for Admission of Patient and the "MS-5" Admission form. The latter was developed as a machine readable statistical form for use in a multi-state information system.[11] Copies of these documents

[11]Abbott S. Weinstein, "Evaluation Through Medical Records and Related Information Systems" in Handbook of Evaluation Research, Elmer L. Struening and Marcia Guttentag (editors) Vol. 1 pp. 397-484, Beverly Hills: Sage Publications, 1975.

found in the Appendix.

Each record, one per admission, contains information on the institution of admission, birthplace, sex, race, citizenship, household composition, marital status, religion, veteran status, education, legal status, place from which the patient was received, number of previous stays and primary diagnosis.

In addition, each record also contains a residence code for the patient. Outside of New York City these residence codes refer to the county of residence and the specific town or viallage. Within New York City the residence code refers to the health area.

The health area is a geographical unit developed in the 1930's by the New York City Department of Health for the reporting of vital statistics, namely births and deaths. The units were chosen so that their boundaries were coterminous with census tract boundaries created by the Bureau of the Census. Health areas were designed to describe relatively homogeneous populations living within these geographical areas. In 1970, each health area contained approximately 23,000 persons, on the average, and was composed of a number of census tracts. It is therefore possible to create population data for the health area level by simply adding together the component census tract information. Maps of each of the five boroughs of New York City and their component health areas may be found in the Appendix.

The population and housing data used in this study are tabulations of characteristics of individuals aggregated to the census tract level and provided on computer tapes by the bureau of the Census. The data for the 19th decennial Census of Population and housing (1970) consists of second and fourth count tapes for census tracts. The second count tapes contain data on those items collected on 100% of the population. The fourth count tapes contain items sampled at the 20%, 15% and 5% levels. See table 1 in the Appendix for the sampling level of the various items contained in the census questionnaire. The information for the 18th decennial census (1960) for census tracts for New York City was also provided on computer tape. Although the 1960 data is somewhat limited, many comparable measures were derived.

These census materials were aggregated to the health area level and selected measures from the census and other sources, described in detail below, were made available for this study by the Epidemiology of Mental Disorders Research Unit of the New York State Psychiatric Institute.

All of the computing for this study was executed on the IBM 370/168 of the City University of New York Computer Center. All programs were stored and submitted using WYLBUR a time-sharing system used for the typing, editing, and storage of programs. WYLBUR, originally developed as a text editor by the Stanford University

Linear Accelerator Group allows the user to keep data and programs "on-line" in the computer for almost instantaneous submission and retreival.

The statistical analyses and data management tasks were all performed using SPSS: The Statistical Package for the Social Sciences. (Releases 6.02 and 7.0)[12]

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[12]Norman H. Nie et al., SPSS: Statistical Package for the Social Sciences, Second Edition, New York: McGraw-Hill, 1975.

Chapter IV

PRELIMINARY DATA ANALYSIS

Initial Inspection

Upon receipt of the computer tape containing the psychiatric inpatient records, a check was made to see if the measures present seemed reasonable and that the documentation provided matched the data. This also allowed an observation of to what extent data was missing from the patient records. This initial analysis utilized the FREQUENCIES procedure of SPSS to count the number of codes present in a given location on the input record.[1]

In examining the frequency of foreign-born patients, it was found that 13.2% of all admissions were foreign-born and in each borough the foreign-born were underrepresented among the hospital admissions in comparison to their numbers in the general population. Staten Island was the sole exception. See Table 1 for the foreign-born admission ratios for each borough.

Further examination also revealed that the foreign-born inpatients, as a group, were considerably older than either their native-born or Puerto Rican counterparts. Table 2 presents the age distribution of three groups, the

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[1]Nie et al, SPSS: p. 194

TABLE 1

FOREIGN-BORN ADMISSION RATIOS BY BOROUGH

	Bronx	Brooklyn	Manhattan	Queens	Richmond
Total population[1]	1,471,686	2,601,974	1,539,225	1,986,470	295,443
Foreign-born	229,210	456,636	307,630	416,887	26,695
% Foreign-born	15.6	17.5	20.0	21.0	9.0
Total admissions[2]	3,691	6,086	6,514	4,200	279
Foreign-born	438	818	815	646	35
% Foreign-born	11.9	13.4	12.5	15.4	12.5

[1]U.S. Bureau of the Census, Census of Population and Housing: 1970 CENSUS TRACTS, Final Report PHC (1) New York, N.Y. SMSA Part 1, Washington D.C.: U.S. Government Printing Office, 1972.

[2]N.Y. State Mental Hygiene Tape

TABLE 2

CROSSTABULATION OF BIRTHPLACE BY AGE

AGE

	<5	5-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75+
Native-born	110 (0.7)	853 (5.2)	1319 (8.1)	2008 (12.3)	3512 (21.5)	3148 (19.3)	2410 (14.7)	1540 (9.4)	900 (5.5)	543 (3.3)
Puerto Rican	4 (0.2)	53 (3.2)	117 (7.0)	281 (16.8)	462 (27.6)	417 (24.9)	201 (12.0)	89 (5.3)	35 (2.1)	16 (1.0)
Foreign-born	0 (0.0)	18 (0.7)	81 (2.9)	143 (5.2)	345 (12.5)	292 (10.6)	311 (11.3)	362 (13.2)	616 (22.4)	584 (21.2)

The numbers in parentheses are the row percentages.

The frequencies are for all admissions excluding those of unknown birthplace.

foreign-born, the native-born and those of Puerto Rican birth. It was this table which confirmed the exclusion of the Puerto Ricans from further study as described earlier.

Cleaning the Foreign-Born File

Once the data were confirmed to match the documentation, the records of the foreign born admissions residing in the 5 counties comprising New York City were sorted out of the tape file and stored "on-line" in a WYLBUR file. This was done to allow easier access to the data as well as to enable the inspection of individual patient records. This feature was most critical for the next step.

The first obstacle, at this point, proved to be a tedious one, but not one which was insurmountable. In much of the literature of psychiatric epidemiology and ecology of mental disorders, the investigators analyzed records of patients. The data available for this project were records of admissions. In other words, this data set contained a record for each event (an admission) and not a record per individual patient. Fortunately, each patient can be located in the file by a unique seven digit identification code. The execution of a FREQUENCIES analysis on that field comprising the patient identification number yields a list of how many times each patient was admitted in fiscal 1970. This identifies those patients admitted more than once.

By utilizing WYLBUR to list each unique seven digit sequence of numbers comprising the identification number of each patient with more than one admission one can examine that patient's records. This feature of WYLBUR was helpful in that it allowed one to confirm by checking global parameters such as age, race, sex and birthplace that this was indeed the same patient. In some cases, missing values could be replaced by known ones from the other records for that patient. This was done for each of the 400 plus records of multiple admissions, individually. As each record was examined, the extra admissions were moved, again using WYLBUR, to the back of the file for subsequent removal from the resulting data set.

The multiple records were then deleted from the file and recurrent FREQUENCIES analyses were executed until all the resultant data were unduplicated admission records (one record per patient). These patient records were used from this point forward in the analysis.

Preliminary Findings

The national origin of the foreign-born patients is presented in Table 3. All of the major European countries are represented in the hospitalized population.

It was necessary to select patients from those countries which had: (a) sufficient frequency of admissions to make subsequent analysis possible and (b) the existence

TABLE 3

NATIONAL ORIGIN

Birthplace	Number of Patients
Canada	65
Cuba	99
West Indies	300
Other Americas	113
Austria	131
Czechoslovakia	35
France	23
Germany	176
Hungary	54
Greece	39
Ireland	232
Italy	286
Lithuania	23
Poland	245
Rumania	33
Scandanavia	37
U.S.S.R.	295
United Kingdom	97
Yugoslavia	20
Other Europe	87
Asia	55
Africa	26
All other	33
	2504

of appropriate census data to be used as the denominators. This resulted in the selection of patients from six national groups. The groups consist of those born in Ireland, Germany, Poland, Austria-Hungary, Russia, and Italy respectively. These national groups, for the most part, represent the major foreign populations of New York City. The Austrians and Hungarians were combined because of the close historical ties between these now independent states. At the time that many of these patients probably emmigrated, prior to World War I, the two countries were united.[2]

Tables 4 and 5 present the comparative sex and age distributions for the foreign born groups. Tables 6 thru 12 present the age-sex distribution breakdown of patients for each of the national groups in this study. It should be noted that many of these patients are very old.

Table 13 shows the marital status of the selected foreign-born patients. The number of widows is extremely high due to the advanced age of the sample. Similarly, the number of those never married is very low. In the same year, the native-born psychiatric patients had the following marital status distribution: single 52.2%, married 23.8% widowed 7.2%, separated 11.3% and divorced 5.5%. The

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[2]Similar combination was also made of the Austrians and Hungarians by Locke and Duvall, "Migration and Mental Illness."

TABLE 4

BIRTHPLACE BY SEX OF SELECTED FOREIGN-BORN PATIENTS

	SEX		
COUNT / ROW PCT	MALE	FEMALE	ROW TOTAL
IRISH	113	119	232
	48.7	51.3	16.3
GERMAN	68	108	176
	38.6	61.4	12.4
POLISH	85	160	245
	34.7	65.3	17.3
AUSTHUNG	62	123	185
	33.5	66.5	13.0
RUSSIAN	102	193	295
	34.6	65.4	20.8
ITALIAN	151	135	286
	52.8	47.2	20.2
COLUMN TOTAL	581	838	1419
	40.9	59.1	100.0

TABLE 5

BIRTHPLACE BY AGE OF SELECTED FOREIGN-BORN PATIENTS

	AGE					
COUNT / ROW PCT	UNDER 18	18 - 24	25 - 44	45 - 64	65+	ROW TOTAL
IRISH	0 0.0	2 0.9	44 19.0	94 40.5	92 39.7	232 16.3
GERMAN	2 1.1	18 10.2	24 13.6	47 26.7	85 48.3	176 12.4
POLISH	1 0.4	4 1.6	18 7.3	73 29.8	149 60.8	245 17.3
AUSTHUNG	2 1.1	0 0.0	20 10.8	42 22.7	121 65.4	185 13.0
RUSSIAN	0 0.0	3 1.0	10 3.4	58 19.7	224 75.9	295 20.8
ITALIAN	3 1.0	13 4.5	58 20.3	49 17.1	163 57.0	286 20.2
COLUMN TOTAL	8 0.6	40 2.8	174 12.3	363 25.6	834 58.8	1419 100.0

TABLE 6

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN IRELAND

SEX		AGE 16 - 24	25 - 44	45 - 64	65+	ROW TOTAL
MALE	COUNT	2	24	47	40	113
	ROW PCT	1.8	21.2	41.6	35.4	48.7
	COL PCT	100.0	54.5	50.0	43.5	
	TOT PCT	0.9	10.3	20.3	17.2	
FEMALE	COUNT	0	20	47	52	119
	ROW PCT	0.0	16.8	39.5	43.7	51.3
	COL PCT	0.0	45.5	50.0	56.5	
	TOT PCT	0.0	8.6	20.3	22.4	
COLUMN TOTAL		2	44	94	92	232
		0.9	19.0	40.5	39.7	100.0

TABLE 7

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN GERMANY

SEX	AGE: UNDER 18	18 - 24	25 - 44	45 - 64	65+	ROW TOTAL
MALE	2	8	12	16	30	68
	2.9	11.8	17.6	23.5	44.1	38.6
	100.0	44.4	50.0	34.0	35.3	
	1.1	4.5	6.8	9.1	17.0	
FEMALE	0	10	12	31	55	108
	0.0	9.3	11.1	28.7	50.9	61.4
	0.0	55.6	50.0	66.0	64.7	
	0.0	5.7	6.8	17.6	31.3	
COLUMN TOTAL	2	18	24	47	85	176
	1.1	10.2	13.6	26.7	48.3	100.0

TABLE 8

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN POLAND

SEX	AGE: UNDER 18	18 - 24	25 - 44	45 - 64	65+	ROW TOTAL
MALE	1	2	10	26	46	85
	1.2	2.4	11.8	30.6	54.1	34.7
	100.0	50.0	55.6	35.6	30.9	
	0.4	0.8	4.1	10.6	18.8	
FEMALE	0	2	8	47	103	160
	0.0	1.3	5.0	29.4	64.4	65.3
	0.0	50.0	44.4	64.4	69.1	
	0.0	0.8	3.3	19.2	42.0	
COLUMN TOTAL	1	4	18	73	149	245
	0.4	1.6	7.3	29.8	60.8	100.0

TABLE 9

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN AUSTRIA

SEX	AGE COUNT ROW PCT COL PCT TOT PCT	25 - 44	45 - 64	65+	ROW TOTAL
MALE		2 4.5 40.0 1.5	7 15.9 21.9 5.3	35 79.5 37.2 26.7	44 33.6
FEMALE		3 3.4 60.0 2.3	25 28.7 78.1 19.1	59 67.8 62.8 45.0	87 66.4
	COLUMN TOTAL	5 3.8	32 24.4	94 71.8	131 100.0

TABLE 10

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN HUNGARY

SEX	COUNT / ROW PCT / COL PCT / TOT PCT	AGE: UNDER 18	25 - 44	45 - 64	65+	ROW TOTAL
MALE		1	11	1	5	18
		5.6	61.1	5.6	27.8	33.3
		50.0	73.3	10.0	18.5	
		1.9	20.4	1.9	9.3	
FEMALE		1	4	9	22	36
		2.8	11.1	25.0	61.1	66.7
		50.0	26.7	90.0	81.5	
		1.9	7.4	16.7	40.7	
COLUMN TOTAL		2	15	10	27	54
		3.7	27.8	18.5	50.0	100.0

TABLE 11

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN THE U.S.S.R

SEX	AGE 18 - 24	25 - 44	45 - 64	65+	ROW TOTAL
MALE	2 2.0 66.7 0.7	6 5.9 60.0 2.0	19 18.6 32.8 6.4	75 73.5 33.5 25.4	102 34.6
FEMALE	1 0.5 33.3 0.3	4 2.1 40.0 1.4	39 20.2 67.2 13.2	149 77.2 66.5 50.5	193 65.4
COLUMN TOTAL	3 1.0	10 3.4	58 19.7	224 75.9	295 100.0

TABLE 12

AGE-SEX DISTRIBUTION OF PATIENTS BORN IN ITALY

SEX	AGE COUNT ROW PCT COL PCT TOT PCT	UNDER 18	18 - 24	25 - 44	45 - 64	65+	ROW TOTAL
MALE		2	8	39	22	80	151
		1.3	5.3	25.8	14.6	53.0	52.8
		66.7	61.5	67.2	44.9	49.1	
		0.7	2.8	13.6	7.7	28.0	
FEMALE		1	5	19	27	83	135
		0.7	3.7	14.1	20.0	61.5	47.2
		33.3	38.5	32.8	55.1	50.9	
		0.3	1.7	6.6	9.4	29.0	
COLUMN TOTAL		3 1.0	13 4.5	58 20.3	49 17.1	163 57.0	286 100.0

TABLE 13

MARITAL STATUS OF SELECTED FOREIGN-BORN PATIENTS

COUNT / ROW PCT	MARITAL STATUS: SINGLE	MARRIED	WIDOWED	SEPARATED	DIVORCED	ROW TOTAL
IRISH	58 26.1	86 38.7	61 27.5	11 5.0	6 2.7	222 17.5
GERMAN	45 28.7	51 32.5	47 29.9	5 3.2	9 5.7	157 12.4
POLISH	33 16.0	94 45.6	62 30.1	10 4.9	7 3.4	206 16.2
AUSTRIAN	27 16.6	65 39.9	61 37.4	7 4.3	3 1.8	163 12.9
RUSSIAN	27 10.3	118 45.2	101 38.7	8 3.1	7 2.7	261 20.6
ITALIAN	50 19.3	110 42.5	81 31.3	11 4.2	7 2.7	259 20.4
COLUMN TOTAL	240 18.9	524 41.3	413 32.6	52 4.1	39 3.1	1268 100.0

NUMBER OF MISSING OBSERVATIONS = 151

separated figure is inflated for the native-born because of the high incidence of separation among the Blacks in the sample.

Table 14 shows the household composition of the selected foreign-born patients. Table 15 reports the religion of these patients. Note the high proportion of Jews among the Russians and the Poles. This has been reported both in the 1970 Census and by Rosenthal.[3] Although the Bureau of the Census is prohibited from asking questions of religious affiliation this information may be estimated from the questions pertaining to mother tongue. In 1970, of the 132,620 persons in the New York, New York SMSA born in the U.S.S.R., 30,454 list Russian as their mother tongue, whereas 72,108 report yiddish. Similarly, of the 137,407 persons born in Poland, 50,930 report Polish as their mother tongue and 65,543 report yiddish.[4]

Table 16 presents the rates of previous admissions for each of the foreign-born groups. The Irish have a slightly inflated number of previous admissions primarily due to a higher incidence of admission for alcohol abuse. Hospitalization for alcoholism tends to be frequent due to the episodic nature of the disorder.

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[3]Eric Rosenthal, "The Equivalence of United States Census Data for Persons of Russian Stock or Descent with Americans Jews: An Evaluation" Demography, 12(May, 1975) :275-290.

[4]U.S. Bureau of the Census, Census of Population: 1970 Subject Reports, Final Report PC(2)-1A, National Origin and Language, Washington, D.C.: U.S. Government Printing Office, 1973:246.

TABLE 14

BIRTHPLACE BY HOUSEHOLD COMPOSITION OF SELECTED FOREIGN-BORN PATIENTS

COUNT / ROW PCT	HOUSCOMP: ALONE	WITH SPOUSE	WITH FAMILY	WITH OTHERS	IN INSTITUTION	ROW TOTAL
IRISH	44 34.1	40 31.0	28 21.7	16 12.4	1 0.8	129 18.4
GERMAN	29 34.5	27 32.1	16 19.0	8 9.5	4 4.8	84 12.0
POLISH	35 32.1	39 35.8	19 17.4	8 7.3	8 7.3	109 15.5
AUSTHUNG	31 32.6	25 26.3	25 26.3	10 10.5	4 4.2	95 13.6
RUSSIAN	32 28.1	48 42.1	17 14.9	10 8.8	7 6.1	114 16.3
ITALIAN	44 25.9	55 32.4	50 29.4	16 9.4	5 2.9	170 24.3
COLUMN TOTAL	215 30.7	234 33.4	155 22.1	68 9.7	29 4.1	701 100.0

NUMBER OF MISSING OBSERVATIONS = 718

TABLE 15

BIRTHPLACE BY RELIGION OF SELECTED FOREIGN-BORN PATIENTS

	RELIGION						
COUNT / ROW PCT	PROTESTANT	ROMAN CATHOLIC	GREEK ORTHODOX	JEWISH	OTHER	NONE	ROW TOTAL
IRISH	7 / 3.2	213 / 96.4	0 / 0.0	0 / 0.0	0 / 0.0	1 / 0.5	221 / 17.4
GERMAN	51 / 34.5	30 / 20.3	1 / 0.7	58 / 39.2	4 / 2.7	4 / 2.7	148 / 11.7
POLISH	7 / 3.4	39 / 18.8	1 / 0.5	159 / 76.4	1 / 0.5	1 / 0.5	208 / 16.4
AUSTRIAN	12 / 7.3	38 / 23.2	1 / 0.6	108 / 65.9	5 / 3.0	0 / 0.0	164 / 12.9
RUSSIAN	5 / 1.9	6 / 2.3	10 / 3.9	232 / 89.9	5 / 1.9	0 / 0.0	258 / 20.3
ITALIAN	3 / 1.1	261 / 97.0	0 / 0.0	2 / 0.7	2 / 0.7	1 / 0.4	269 / 21.2
COLUMN TOTAL	85 / 6.7	587 / 46.3	13 / 1.0	559 / 44.1	17 / 1.3	7 / 0.6	1268 / 100.0

NUMBER OF MISSING OBSERVATIONS = 151

TABLE 16

BIRTHPLACE BY PREVIOUS STAYS OF SELECTED FOREIGN-BORN PATIENTS

COUNT / ROW PCT	FIRST ADMISSION	1 STAY	2 STAYS	3 STAYS	4 STAYS	5 STAYS	6 STAYS	7 STAYS	ROW TOTAL
IRISH	135	62	26	7	2	0	0	0	232
	58.2	26.7	11.2	3.0	0.9	0.0	0.0	0.0	16.3
GERMAN	113	44	10	3	2	2	0	0	176
	64.3	25.0	5.7	1.7	1.1	1.1	0.0	0.0	12.4
POLISH	147	72	15	7	1	1	2	0	245
	60.0	29.4	6.1	2.9	0.4	0.4	0.8	0.0	17.3
AUSTRIANS	125	43	11	0	2	1	3	0	185
	67.6	23.2	5.9	0.0	1.1	0.5	1.6	0.0	13.0
RUSSIAN	169	81	10	11	1	0	0	3	295
	64.1	27.5	3.4	3.7	0.3	0.0	0.0	1.0	20.8
ITALIAN	180	73	1	6	1	1	0	0	286
	63.0	25.5	0.6	2.1	0.3	0.3	0.0	0.0	20.2
COLUMN TOTAL	897	375	91	34	9	5	5	3	1419
	63.2	26.4	6.4	2.4	0.6	0.4	0.4	0.2	100.0

Table 17 shows the use of private vs. public facilities for each of the selected foreign-born groups. The Russians have a tendency to use private facilities whereas the Irish and the Italians tend to use public facilities more often. The fact that Jews and Catholics tend to seek different forms of psychotherapy has been noted in the literature.[5]

Table 18 presents the major diagnostic category of each of the foreign-born groups.[6] A table of the specific diagnoses included in each category may be found in Appendix A.

Preparation for Aggregation

As received, each record carried a 4 digit code representing the county and health area of residence for New York City residents and a place code for those living outside the city at the time of their admission. In order to aggregate these records and to eventually match them up with demographic profiles it was necessary to replace this code with an eight digit borough, health area and sort sequence code. This was accomplished, again utilizing

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[5]Judith G. Rabkin and Elmer L. Struening Ethnicity, Social Class and Mental Illness in New York City: A Social Area Analysis of Five Ethnic Groups. New York: Center on Group Identity and Mental Health, American Jewish Committee (May, 1976):15-16.

[6]American Psychiatric Association, Committee on Nomenclature and Statistics, DSM-II, Diagnostic and Statistical Manual of Mental Disorders, Second Edition, Washington, D.C.: American Psychiatric Association, 1968.

TABLE 17

BIRTHPLACE BY PUBLIC VS. PRIVATE HOSPITALIZATION

OF SELECTED FOREIGN-BORN PATIENTS

COUNT / ROW PCT	PUBLIC	PRIVATE	CORRECTIONAL	ROW TOTAL
IRISH	149	83	0	232
	64.2	35.8	0.0	16.3
GERMAN	105	71	0	176
	59.7	40.3	0.0	12.4
POLISH	134	110	1	245
	54.7	44.9	0.4	17.3
AUSTRIAN	109	76	0	185
	58.9	41.1	0.0	13.0
RUSSIAN	140	155	0	295
	47.5	52.5	0.0	20.8
ITALIAN	210	76	0	286
	73.4	26.6	0.0	20.2
COLUMN TOTAL	847	571	1	1419
	59.7	40.2	0.1	100.0

TABLE 18

BIRTHPLACE BY DIAGNOSTIC CATEGORY OF SELECTED FOREIGN-BORN PATIENTS

	Irish	German	Polish	Austhung	Russian	Italian	Row Total
Mental Retardation	0	0	0	0	0	2 (0.7)	2
Organic Psychosis	50 (21.6)	44 (25.0)	60 (24.5)	58 (31.4)	92 (31.2)	95 (33.2)	399
Non-Psychotic Organic	1 (0.4)	2 (1.1)	3 (1.2)	4 (2.2)	9 (3.1)	10 (3.5)	29
Schizophrenia	28 (12.1)	33 (18.8)	33 (13.5)	27 (14.6)	26 (8.8)	63 (22.0)	210
Major-Affective	24 (10.3)	22 (12.5)	29 (11.8)	23 (12.4)	42 (14.2)	24 (8.4)	164
Paranoid States	4 (1.7)	4 (2.3)	4 (1.6)	6 (3.2)	6 (2.0)	6 (2.1)	30
Other Psychoses	7 (3.0)	3 (1.7)	3 (1.2)	6 (3.2)	7 (2.4)	8 (2.8)	34
Neuroses	8 (3.4)	13 (7.4)	20 (8.2)	10 (5.4)	17 (5.8)	7 (2.4)	75
Personality Disorders	1 (0.4)	0	1 (0.4)	0	2 (0.7)	1 (0.3)	5
Other Non-Psychoses	59 (25.4)	12 (6.8)	8 (3.3)	5 (2.7)	5 (1.7)	9 (3.1)	98
Other and Unknown	50 (21.6)	43 (24.4)	84 (34.3)	46 (24.9)	89 (30.2)	61 (21.3)	373
Column Total	232	176	245	185	295	286	1419

WYLBUR "change" commands. Each unique 4 digit code for a health area was changed to the new 3 digit code, one code at a time (as opposed to one case at a time) for each of the 345 health area codes present. All cases not having a valid residence code were dropped from subsequent analysis. Approximately 10% of the cases were eliminated here. This was done after testing to see if the cases without geographical codes were different with respect to age, sex, birthplace, etc. from those with geographical codes so as not to bias the findings. They were not different.

Having each record now identified with its new health area code, it was necessary to sort the records so that records from each geographical unit to be aggregated were physically adjacent to one another in the file. This is a requirement of subprogram AGGREGATE.[7] This was accomplished by punching a card for each record, sorting the cards on an "old fashioned" counter/sorter and then reading the cards back onto a WYLBUR file. This might also have been accomplished by using the IBM utility program SORT/MERGE, but this program is notoriously unreliable.[8]

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[7]Nie et al, SPSS:203

[8]City University of New York Computer Center, Users Manual Revised Edition, (Mimeo) September 1974:721

Aggregation to the Health Area Level:

Computation of Numerators

In aggregating data from the individual level to a higher level, in this case, the geographical unit health area, a decision must be made as to what measures are to be summed together, such as how many Irish-born inpatients reside in an area. A new dichotomous variable is created which counts the presence or absence of the characteristic to the tabulated. One then sums all the cases with that characteristic present in each health area using subprogram AGGREGATE and a total for each characteristic per unit is produced. This procedure was used to create the numerators for the ethnic specific rates.

Subprogram AGGREGATE creates its output records in binary. These machine codes are physically unreadable. Utilizing subprogram WRITE CASES[9] the binary records were read in and read out again in an intellible form. It was then possible to inspect the new health area frequencies. This data was stored in a separate WYLBUR file consisting of one record for each health area. The total number of observations was thus 338. Seven health areas were dropped from the analysis because they consist of parks or special institutional populations.

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[9]Nie et al, SPSS: 139

Selection of Demographic Variables for the Analysis

In order to compute rates for ethnic-specific mental hospitalization it was necessary to have denominators for each of the aggregated variables. In addition, data was needed to both characterize the areas from which the patients came as well as to provide independent or predictor variables for the testing of the hypotheses.

The measures were selected to describe various theoretical dimensions of communities based on the social area models as cited in Chapter III. Variables were also chosen to describe both the ethnic character of the area as well as population shifts during the last decade.

The two files, the mental hygiene and the demographic, were then merged into one large file by physically merging cards containing the data from each. Again the data was read into a WYLBUR file for the final analyses. See Table 19 for a complete list of variables selected for this analysis.

Computation of Rate and Change

Once the data was successfully merged yielding 338 cases, one per health area, the rate computation began. Utilizing the mental hospitalization frequencies as numerators and appropriate census measures as denominators the ethnic specific hospitalization rates were calculated. It was these six variables, namely the Irish, German, Polish Austrian-Hungarian, Russian and Italian ethnic-specific

mental hospitalization rates which were used as dependent variables in the subsequent analyses. Other rates and characteristics of areas are used as explanatory or independent variables. See Table 20 for the definitions of the rate and change variables.

Chapter V describes the final analyses.

TABLE 19

Glossary of Variables for Areal Analysis

Variable Number	Description	Source
Var. 002	Total foreign born inpatients This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 004	Inpatients born in Ireland This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 005	Inpatients born in Germany This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 006	Inpatients born in Poland This variable is used as a numerator in rate computation.	Mental Hygiene Tape

Glossary of Variables for Areal Analysis - Continued. 19

Variable Number	Description	Source
Var. 007	Inpatients born in Austria or Hungary This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 008	Inpatients born in the U.S.S.R. This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 009	Inpatients born in Italy This variable is used as a numerator in rate computation.	Mental Hygiene Tape
Var. 015	Persons born in Ireland This variable is used as denominator in rate computation	1970 Census 4th Count Summary Tape Record Type 1, Table 22

Glossary of Variables for Areal Analysis - Continued. 19

Variable Number	Description	Source
Var. 016	Persons born in Germany This variable is used as a denominator in rate computation.	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 017	Persons born in Poland This variable is used as a demonimator in rate computation.	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 018	Persons born in Austria and Hungary This variable is used as a denominator in rate computation.	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 019	Persons born in the U.S.S.R. This variable is used as a denominator in rate computation.	1970 Census 4th count Summary Tape Record type 1, Table 22

Glossary of Variables for Areal Analysis - Continued. 19

Variable Number	Description	Source
Var. 020	Persons born in Italy This variable is used as a denominator in rate computation.	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 021	Count of foreign born persons who migrated to the United States from 1960 to 1970.	1970 Census 4th Count Summary Tape Record type 1, Table 26
Var. 022	Count of foreign born persons who immigrated to the United States from 1945 to 1959.	1970 Census 4th Count Summary Tape Record type 1, Table 26.
Var. 023	Count of foreign born persons who immigrated to the United State from 1925 to 1944.	1970 Census 4th Count Summary Tape Record type 1, Table 26

Glossary of Variables for Areal Analysis - Continued. 19

Variable Number	Description	Source
Var. 024	Count of foreign born persons who immigrated to the United States before 1925	1970 Census 4th Count Summary Tape Record type 1, Table 26
Var. 025	Percent of persons who moved into unit from 1969 to 1970. (number of persons moved into unit 1969-1970 divided by count of persons. The resulting ratio is then multiplied by 100). This is used as an indicator of recent mobility.	1970 Census 4th Count Summary Tape Record type 1, Table 34
Var. 026	Percent of persons who moved into unit in 1949 or earlier. (Number of persons moved into unit in 1949 or earlier divided by count of persons. The resulting ratio is multiplied by 100) This is used as an indicator of neighborhood stability	1970 Census 4th Count Summary Tape Record type 1, Table 34

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 027	Percent of females 16 years and older in the labor force (number of females 16 years and older in the labor force divided by the number of females 16 years and older. The resulting ratio is multiplied by 100). This variable is most often identified with the famalism dimension in factorial ecology.	1970 Census 4th Count Summary tape Record type 1, Table 54
Var. 028	Percent of blue collar workers (unmerator is the count of persons 16 years old and over employed as a)automobile mechanics and body repairmen, other mechanics and repairment, machinists, metal craftsmen, carpenters, construction craftmen, other craftmen. b)Durable goods manu-	1970 Census 4th Count Summary Tape Record type 1, Table 58

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 028 - Continued	facturing operatives, nondurable goods manufacturing operatives and nonmanufacturing industries, operatives, truck drivers and other transport equipment operatives. c) Construction laborers, freight, stock and material handlers, and other laborers. d) Farmers and farm managers, farm laborers, unpaid family workers and other laborers. e) Cleaning, food, health, personal and protective service workers, and private household workers. Denominator is count of employed persons 16 years and older. The resultion ratio is multiplied by 100) This variable is associated with a socio-economic status dimension in the factorial ecology literature.	

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 035	Percent of persons 14 years and older, who are separated (number of males and females 14 years and older separated divided by the count of persons 14 years and older. The resulting ratio is multipled by 100) This variable is associated with the socio-economic status dimension and is an indicator of social disorganization. It can also be used as a proxy for percent black, as their correlation is extremely high.	1970 Census 4th Count Summary Tape Record type 1, Table 20
Var. 036	Percent of persons 14 years and older who are widowed (number of males and females 14 years and older	1970 Census 4th Count Summary Tape Record type 1, Table 20

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 036-Continued	widowed divided by the count of persons 14 years and older. The resulting ratio is multiplied by 100)	
Var. 037	Percent of persons 14 years and older who are divorced (number of males and females 14 years and older divorced divided by the count of persons 14 years and older. The resultant ratio is multiplied by 100). This has traditionally been a measure of social disorganization.	1970 Census 4th Count Summary Tape Record type 1, Table 20
Var. 038	Count of occupied units 1960 This variable was selected in order to measure residential area growth	1960 Census Census Tract Summary Tape, Table 2

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 038-Continued	in the 1960-1970 decade.	
Var. 039	Count of occupied units 1970 This variable was selected in order to measure residential area growth in the 1960-1970 decade.	1970 Census 2nd Count Summary Tape Table 30
Var. 040	Count of Black Persons 1960	1960 Census Census Tract Summary Tape. Table 11
Var. 041	Count of Black persons 1970	1970 Census 2nd Count Summary Tape Table 1

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 042	Count of White persons 1960	1960 Census Census Tract Summary Tape, Table 14
Var. 043	Count of White persons 1970	1970 Census 2nd Count Summary Tape Table 1
Var. 044	Count of Total Population 1960 This variable is used as a denominator for rate computation	1960 Census Census Tract Summary Tape, Table 12.
Var. 045	Count of Total Population 1970 This variable is used as a denominator for rate computation	1970 Census 2nd Count Summary Tape Table 1.

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 046	Count of persons 65 years and older 1960	1960 Census Census Tract Summary Tape Tables 14 and 15
Var. 047	Count of persons 65 years and older 1970	1970 Census 2nd Count Summary Tape Table 2
Var. 048	Persons of Puerto Rican Birth or parentage 1960	1960 Census Census Tract Summary Tape, Table 17
Var. 049	Persons of Puerto Rican birth or parentage 1970	1970 Census 4th Count summary Tape Record type 1, Table 24

Glossary of Variables for Areal Analysis--Continued. 19

Variable Number	Description	Source
Var. 050	Count of foreign born persons 1960	1960 Census Census tract summary Tape, Table 18
Var. 051	Count of Second generation persons 1960 (native of foreign or mixed parentage).	1960 Census Census Tract Summary Tape Table 18
Var. 050	Count of foreign born persons	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 053	Count of Second generation persons 1970 (Native of foreign or mixed parentage).	1970 Census 4th Count Summary Tape Record type 1, Table 22

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 054	Count of persons born in Ireland or of Irish parentage 1960	1960 Census Census Tract Summary Tape, Table 19
Var. 055	Count of persons born in Germany or of German parentage 1960	1960 Census Census Tract Summary Tape, Table 19
Var. 056	Count of persons born in Poland or of Polish parentage 1960	1960 Census Census Tract Summary Tape, Table 19
Var. 057	Count of persons born in Austria or Hungary or of Austrian or Hungarian parentage 1960	1960 Census Census Tract Summary Tape, Table 19

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 058	Count of persons born in the U.S.S. R. or of Russian parentage 1960	1960 Census Census Tract Summary Tape, Table 19
Var. 059	Count of Persons born in Italy or of Italian parentage 1960	1960 Census Census Tract Summary Table 19
Var. 060	Count of persons born in Ireland or of Irish parentage 1970	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 061	Count of persons born in Germany or of German parentage 1970	1970 Census 4th Count Summary Tape Record type 1, Table 22

Glossary of Variables for Areal Analysis--Continued. 19

Variable Number	Description	Source
Var. 062	Count of persons born in Poland or of Polish parentage 1970	1970 Census 4th Count Summary tape Record type 1, Table 22
Var. 063	Count of persons born in Austria or Hungary or of Austrian or Hungarian parentage 1970	1970 Census 4th Count Summary Tape Record type 1, Table 22
Var. 064	Count of persons born in the U.S.S.R. or of Russian parentage 1970.	1970 Census 4th count Summary Tape Record type 1, Table 22
Var. 065	Count of persons born in Italy or of Italian parentage 1970	1970 Census 4th Count Summary Tape Record type 1, Table 22

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 066	Percent of families with incomes below $4,000, 1970 (number of families with incomes below $4,000 divided by the number of families. The resultant ratio is multiplied by 100). This variabel is a measure of the socio-economic status of areas.	1970 Census 4th Count Summary Tape Record type 1, Table 75
Var. 067	Percent of persons, 25 years and older with less than an 8th grade education. 1970 (number of persons 25 years and older with less than an 8th grade education divided by the number of persons 25 years and older. The resultant ratio is multiplied by 100). This variable is a measure of socio-economic status.	1970 Census 4th count Summary Tape Record type 1, Table 42

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 068	Percent of housing units with 1.51 or greater persons per room. 1970 (Number of occupied housing units with 1.51 or greater persons per room divided by the number of occupied housing units. The resultant ratio is multiplied by 100). The variable is an indicator of both socio-economic status and urbanism.	1970 Census 4th Count Summary Tape Record Type 1, Table 35
Var. 069	Fertility-1970. This variable is the number of births to mothers aged 15 to 44 divided by the number of females 15 to 44. The resultant ratio is multiplied by 100.	1970 Birth Tape/1970 Census 2nd Count Summary Tape Table 2

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 070	Percent of children 17 years and under receiving Aid to Dependent Children allowances. 1971 (number of children 17 years and under receiving Aid to Dependent Children allowances divided by the number of Children 17 years and under. The resultant ratio is multiplied by 100).	The City of New York Department of Social Services Office of Fiscal Affairs, Division of Statistics Distributions of Cases and Persons Receiving Public Assistance by Program and Health Area, July 1971/1970 Census 2nd Count Summary Tape Table 2.
Var. 071	Percent of Juvenile Offences for youths 7 to 20, 1970 (Number of reported Juvenile offenses for youths 7 to 20	Abraham C. Burstein Director of Economic Research City of New

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 071-Continued	divided by number of persons 7 to 20. The resultant ratio is multiplied by 100).	York, Human Resources Administration. The Burstein Report March 1972/1970 Census 2nd Count Summary Tapes Table 2
Var. 072	Percent of persons 65 and older below the poverty level. 1970 (number of persons 65 and older below the poverty level divided by the number of persons 65 and older. The resultant ratio is multiplied by 100).	1970 Census 4th Count Summary Tapes Record type 1, Table 90
Var. 073	Percent of persons 65 years and older or old Age Assistance. 1971 (number of	The Burstein Report/ 1970 Census

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 073-Continued	persons 65 years and older on Old Age Assistance in 1971 divided by the number of persons 65 years and older. The resultant ratio is multiplied by 100).	2nd Count Summary Tape Table 2
Var. 074	Persons living alone. 1970 (Number of units with 1 persons in unit divided by the number of units. The resultant ratio is multiplied by 100). This variable is strongly associated with socio-economic status and familism.	1970 Census 2nd Count Summary Tape Table 62
Var. 075	Median Family Income Category - 1970 This variable is the category into which the median income of the area	1970 Census 4th Count Summary Tape Record Type 1, Table 75.

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 075-Continued	falls: 1 = Less than $1,000 2 = $1,000 - 1,999 3 = 2,000 - 2,999 4 = 3,000 - 3,999 5 = 4,000 - 4,999 6 = 5,000 - 5,999 7 = 6,000 - 6,999 8 = 7,000 - 7,999 9 = 8,000 - 8,999 10 = 9,000 - 9,999 11 = 10,000 - 11,999 12 = 12,000 - 14,999 13 = 15,000 - 24,999 14 = 25,000 49,000 15 = 50,000 and over. This variable is a measure of socio-economic status of areas.	

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
Var. 076	Percent of units with 10 or more units at that address 1970 (number of units with 10 or more units at that address divided by the number of units. The resulting ratio is multiplied by 100). This variable is an indicator of urbanism as it identifies urban multiple dwelling style housing structures.	1970 Census 2nd Count Summary Tape Table 44
Var. 077	Percent of units vacant - 1970 (number of units vacant for sale or rent divided by the number of occupied and vacant units. The resulting ratio is multiplied by 100).	1970 Census 2nd Count Summary Tape Table 48

Glossary of Variables for Areal Analysis-Continued. 19

Variable Number	Description	Source
073	Percent persons SUICIDE- 1970 (Number of persons who died of Suicide in 1970 divided by the total population. The resultant ratio is multiplied by 100). This variable is associated with isolation	1970 Death Tape/ 1970 Census 2nd Count Summary Tape Table 1
Var. 079	Percent persons HOMICIDE - 1970 (Number of persons who died of Homicide in 1970 divided by the total population. The resultant ratio is multiplied by 100). This variable is associated with social disorganization and poverty.	1970 Death Tape/ 1970 Census 2nd Count Summary Tape Table 1

Table 20

Glossary of Rate and Change Variables

Variable Number	Description and Formula
Var. 080	Percent of Irish born hospitalized (Var. 004/Var. 015) *100 The number of Irish inpatients divided by the number of Irish.
Var. 081	Percent of German born hospitalized (Var. 005/Var. 016) *100 Number of German inpatients divided by the number of Germans.
Var. 082	Percent of Polish born hospitalized (Var. 006/Var. 017) *100 Number of Polish inpatients divided by the number of Poles.
Var. 083	Percent of Austrian or Hungarian born hospitalized (Var. 007/Var. 018) *100 Number of Austrin and Hungarian inpatients divided by the number of Austrians and Hungarians.
Var. 084	Percent of Russian born hospitalized (Var. 008/Var. 019) *100 Number of Russian inpatients divided by the number of Russians.

Glossary of Rate and Change Variables- Continued. 20

Variable Number	Description and Formula
Var. 085	Percent of Italian born hospitaliced (Var. 009/Var. 020) *100 Number of Italian inpatients divided by the number of Italians.
Var. 086	Percent of total foreign born hospitalized (Var. 002/Var. 052) *100 Number of foreign born inpatients divided by the number of foreign born.
Var. 087	Percent BLACK 1970 (Var. 041/Var. 045) *100 Number of Blacks divided by the total population.
Var. 088	Percent WHITE 1970 (Var. 043/Var. 045) *100 Number of Whites divided by the total population.
Var. 089	Percent PUERTO RICAN 1970 (Var. 049/Var. 045) *100 Number of Puerto Ricans divided by the total population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 090	Percent 1st and 2nd generation Irish. (Var. 060/Var. 045) *100 Number of persons born in Ireland or of Irish parentage divided by the total population.
Var. 091	Percent 1st and 2nd generation German (Var. 061/Var. 045) *100 Number of persons born in Germany or of German parentage divided by the total population.
Var. 092	Percent 1st and 2nd generation. (Var. 062/Var. 045) *100 Number of persons born in Poland or of Polish parentage divided by the total population.
Var. 093	Percent 1st and 2nd generation Austrian and Hungarian (Var. 063/Var. 045) *100 Number of persons born in Austria or Hungary or of Austrian or Hungarian parentage divided by the total population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 094	Percent 1st and 2nd generation Russian (Var. 064/Var. 045) *100 Number of persons born in the U.S.S.R. or of Russian parentage divided by the total population.
Var. 095	Percent 1st and 2nd generation Italian. (Var. 065/Var. 045) *100 Number of persons born in Italy or of Italian parentage divided by the total population.
Var. 096	Percent of foreign born who immigrated from 1960 to 1970 IVar. 021/Var 021 + Var. 022 + Var. 023 + Var. 024) *100 Number of foreign born who immigrated from 1960 to 1970 divided by the number of foreign born.
Var. 097	Percent of foreign born who immigrated from 1945 to 1959. (Var. 022/Var. 021 + Var. 022 + Var. 023 + Var. 024) *100 Number of foreign born who immigrated from 1945 to 1959 divided by the number of foreign born.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 098	Percent of foreign born who immigrated from 1925 to 1944 (Var. 023/(Var. 021 + Var. 022 + Var. 023 + Var. 024)) * 100 Number of foreign born who immigrated from 1925 to 1944 divided by the number of foreign born.
Var. 099	Percent of foreign born who immigrated before 1925 (Var. 024/(Var. 021 + Var. 022 + Var. 023 + Var. 024)) *100 Number of foreign born who immigrated before 1925 divided by the number of foreign born.
Var. 100	Percent of Irish change from 1960 to 1970 (Var. 054/Var. 044) - (Var. 060/Var. 045)) *100 Number of persons born in Ireland or of Irish parentage in 1960 divided the total population minus the number of persons born in Ireland or of Irish parentage in 1970 divided by the total population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 101	Percent of German Chnage from 1960 to 1970 ((Var. 055/Var. 044) -(Var. 061/Var. 045)) *100 Number of persons born in Germany or of German parentage in 1960 divided by the total population minus the number of persons born in Germany or of german parentage in 1970 divided by the total population.
Var. 102	Percent of Polish change from 1960 to 1970 ((Var. 056/Var. 044)-(Var. 062/Var. 045)) *100 Number of persons born in Poland or of polish parentage in 1960 divided by the total population minus the number of persons born in Poland or of Polish parentage in 1970 divided by the total population.
Var. 103	Percent of Austrian-Hungarian change from 1960 to 1970. ((Var. 057/Var. 044)-(Var. 063/Var. 045)) *100

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 103-Continued	Number of persons born in Austria or Hungary or of Austrian or Hungarian parentage in 1960 divided by the total population minus the number of persons born in Austria or Hungary or of Austrian or Hungarian parentage in 1970 divided by the total population.
Var. 104	Percent of Russian change from 1960 to 1970 ((Var. 058/Var. 044)-(Var. 064/Var. 045)) *100 Number of persons born in the U.S.S.R. or of Russian parentage in 1960 divided by the total population minus the number of persons born in the U.S.S.R. or of Russian parentage in 1970 divided by the total population.
Var. 105	Percent of Italian change from 1960 to 1970 ((Var. 059/Var. 044) -(Var. 065/Var. 045)) *100 Number of persons born in Italy or of Italian parentage in 1960

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 105-Continued	divided by the total population minus the number of persons born in Italy or of italian parentage in 1970 divided by the total population.
Var. 106	Percent of foreign stock change from 1960 to 1970 (((Var. 050+Var. 051)/Var. 044)-((Var. 052+Var. 053)/Var. 045)) *100 Number of persons foreign born or of foreign parentage in 1960 divided by the total population minus the number of persons born or of foreign parentage in 1970 divided by the total population.
Var. 107	Percent change in Black population from 1960 to 1970 ((Var. 040/Var. 044)-(Var. 041/Var. 045)) *100 Number of Black persons in 1960 divided by the total population minus the number of Black persons in 1970 divided by the total Population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 108	Percent change in Puerto Rican population from 1960 to 1970 ((Var. 048/Var. 044)-(Var. 049/Var. 045)) *100 Number of persons of Puerto Rican birth or parentage in 1960 divided by the total population minus the number of persons of Puerto Rican birth or parentage in 1970 divided by the total population.
Var. 109	Percent persons 65 years and older. 1970 (Var. 047/Var. 045) *100 Number of persons 65 years and older divided by the total population.
Var. 110	Percent change in persons 65 years and older from 1960 to 1970 ((Var. 046/Var. 044)-(Var.047/Var. 045) *100 Number of persons 65 years and older in 1960 divided by the total population minus the number of persons 65 years and older in 1970 divided by the total population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 111	Percent change in housing units from 1960 to 1970 ((Var. 038-Var. 039)/Var. 038))*100 Number of housing units in 1960 minus number of housing units in 1970 divided by Number of housing units in 1960.
Var. 112	Percent Irish born - 1970 (Var. 015/Var. 045) *100 The number of persons in 1970 born in Ireland, divided by the total population.
Var. 113	Percent German born - 1970 (Var. 016/Var. 045) *100 The number of persons in 1970 born in Germany divided by the total population.
Var. 114	Percent Polish born - 1970 (Var. 017/Var. 045) *100 The number of persons in 1970 born in Poland divided by the total population.

Glossary of Rate and Change Variables-Continued. 20

Variable Number	Description and Formula
Var. 115	Percent Austrian or Hungarian born - 1970 (Var. 018/Var. 045) *100 The number of persons in 1970 born in Austria or Hungary divided by the total population.
Var. 116	Percent Russian born - 1970 (Var. 019/Var. 045) *100 Number of persons born in the U.S.S.R. divided by the total population.
Var. 117	Percent Italian born - 1970 (Var. 020/Var. 045) *100 Number of persons born in Italy divided by the total population.
Var. 118	Percent foreign born - 1970 (Var. 052/Var. 045) *100 Number of persons foreign born divided by the total population.

Chapter V

FINAL ANALYSIS AND RESULTS

Area Selection

Areas were chosen for analysis based on the distribution of foreign-born. A selection was made for all areas containing any foreign-born of each nationality. Since this might yield spuriously high rates of admissions, particularly in areas where there were few persons of that foreign-born group, other selections were made eliminating those areas with few foreign-born at the decile, quartile and median levels. The relationships between the rates of psychiatric hospitalization and the independent variables remained relatively constant at each level. Therefore, for ease of communication and understanding all areas containing foreign-born would be included in the final predictor modelfor hypothesis 5.

Areas were selected for testing hypotheses 1 through 4 that had psychiatric inpatients for each nationality. This focused on the relationship between hospitalization and the social environment of the hospitalized patients. Table 21 presents the number of cases (health areas) for each foreign-born group based on each of the selection criteria, namely the presence of foreign-born patients for hypotheses 1 through 4 and the presence of foreign-born

residents for hypothesis 5.

TABLE 21

NUMBER OF HEALTH AREAS IN EACH ANALYSIS

Birthplace of Patient	Selected for Foreign-Born Patients (Hypotheses 1-4)	Selected for Foreign-Born in Community (Hypothesis 5)
Ireland	124	294
Germany	108	310
Poland	135	312
Austhung	108	311
U.S.S.R.	149	315
Italy	150	319

Given the demographic differences among the four major boroughs of New York City, it was hypothesized that borough residence might obscure the finer elements of the relationships to be explored in this study. This notion was dismissed after bivariate plots of selected variables for each borough were executed and no differences were found among them. All of the subsequent analyses are for the New York City total.

Hypotheses 1 to 4

The general procedure in testing hypotheses 1 through 4, as stated in chapter III, was to correlate areal rates of psychiatric hospitalization for each of the six foreign-born groups with various measures of the social

environment of the patients.

The areas selected for the final analyses contained patients of each nationality. Each analysis, therefore, will have a different number of cases.

Hypothesis 1: Isolation

Hypothesis 1 states that an inverse relationship is expected between the density of an ethnic group in a community and the rate of mental illness for that group. The results of the test of this hypothesis follow.

1. In areas with patients born in Ireland, the rate of Irish-born psychiatric hospitalization has a correlation of -.3315 with the rate of 1st and 2nd generation Irish in the community and a correlation of -.2950 with the rate of 1st generation Irish. Both of these correlation coefficients are significant at the .001 level.

2. In areas with patients born in Germany, the rate of German-born psychiatric hospitalization has a correlation of -.4557 with the rate of 1st and 2nd generation Germans in the community and a correlation of -.3842 with the rate of 1st generation Germans. Again, both of these correlation coefficients are significant at the .001 level.

3. In areas with patients born in Poland, the rate of Polish-born psychiatric hospitalization has a correlation of -.3350 with the rate of 1st and 2nd generation Poles in the community and a correlation of -.2953 with the rate of 1st generation Poles. These correlation coefficients are

significant at the .001 level.

4. In areas with patients born in Austria or Hungary, the rate of Austrian and Hungarian psychiatric hospitalization has a correlation of -.4140 with the rate of 1st and 2nd generation Austrians and Hungarians in the community and a correlation of -.3548 with the rate of 1st generation Austrians and Hungarians. Both of these correlation coefficients are significant at the .001 level.

5. In areas with patients of Russian birth, the rate of Russian-born psychiatric hospitalization has a correlation of -.2892 with the rate of 1st and 2nd generation Russians in the community and a correlation of -.2599 with the rate of 1st generation Russians. Both of these correlation coefficients are significant at the .001 level.

6. In areas with the patients born in Italy, the rate of Italian-born psychiatric hospitalization has a correlation of -.3973 with the rate of 1st and 2nd generation Italians in the community and a correlation of -.3578 with the rate of 1st generation Italians. Both of these correlation coefficients are significant at the .001 level.

In testing whether ethnic isolation was related to other forms of social isolation, the rates of ethnic-specific foreign-born hospitalization rates were also correlated with frequently used measures of isolation, namely the percent of persons living alone and the rate of suicide. The results of these tests were as follows:

1. In areas with Irish-born patients, the rate of Irish-born psychiatric hospitalization has a correlation of -.0541 with percent living alone and a correlation of -.0016 with the suicide rate. These correlation coefficients are significant at the .275 and .493 levels respectively.

2. In areas with German-born patients, the rate of German-born psychiatric hospitalization has a correlation of -.1261 with percent living alone and a correlation of .0583 with the rate of suicide. These relationships are significant at the .097 and .273 levels respectively.

3. In areas with Polish-born patients, the rate of Polish-born psychiatric hospitalization has a correlation of -.0775 with percent living alone and a correlation of .1233 with the suicide rate. These relationships are significant at the .186 and .077 levels respectively.

4. In areas with Austrian and Hungarian-born patients, the rate of Austrian and Hungarian-born psychiatric hospitalization has a correlation of -.0971 with percent living alone and a correlation of -.0447 with the suicide rate. These correlation coefficients are significant at the .143 and .312 levels respectively.

5. In areas with Russian-born patients, the rate of Russian-born psychiatric hospitalization has a correlation of -.0998 with percent living alone and a correlation of -.0170 with the rate of suicide. These relationships are significant at the .113 and .419 levels respectively.

6. In areas with Italian-born patients, the rate of Italian-born psychiatric hospitalization has a correlation of .1048 with percent living alone and a correlation of .0323 with the rate of suicide. These correlations are significant at the .101 and .159 levels respectively.

Table 22 presents a brief summary of these findings.

TABLE 22

SUMMARY OF HYPOTHESIS 1: ISOLATION

	% 1st & 2nd Generation	% 1st Generation	% Living Alone	Suicide
Irish	-.3315 (.001)	-.2950 (.001)	-.0541 (.275)	-.0016 (.493)
German	-.4557 (.001)	-.3842 (.001)	-.1261 (.097)	.0588 (.273)
Polish	-.3350 (.001)	-.2953 (.001)	-.0775 (.186)	.1233 (.077)
Austhung	-.4140 (.001)	-.3548 (.001)	-.0971 (.143)	-.0447 (.312)
Russian	-.2892 (.001)	-.2599 (.001)	-.0998 (.113)	-.0170 (.419)
Italian	-.3973 (.001)	-.3573 (.001)	.1048 (.101)	.0823 (.159)

The above correlation coefficients of ethnic-specific hospitalization rates.

The numbers in parentheses are the significance levels.

Hypothesis 2: Socio-economic Status

Hypothesis 2 suggests there is no relationship between rates of ethnic-specific foreign-born psychiatric hospitalization and measures of the socio-economic status of communities. The following are the results of testing this hypothesis:

1. In areas with patients born in Ireland, the rate of Irish-born psychiatric hospitalization has a correlation of .4657 with the percent of families earning less than $4000, .4201 with the percent of persons with less than 8th grade education, .4492 with the percent of persons 65+ receiving Old Age Assistance and -.3922 with median income. These correlation coefficients are all significant at the .001 level.

2. In areas with patients born in Germany, the rate of German-born psychiatric hospitalization has a correlation of .6367 with the percent of families earning less than $4000, .6172 with the percent of persons with less than 8th grade education, .5810 with the percent of persons 65+ receiving Old Age Assistance and -.5728 with median income. These correlation coefficients are all significant at the .001 level.

3. In areas with patients born in Poland, the rate of Polish-born psychiatric hospitalization has a correlation of .4275 with the percent of families earning less than $4000, .3368 with the percent of persons with less than 8th

grade education, .3963 with the percent of persons 65+ receiving Old Age Assistance and -.3600 with median income. These relationships are all significant at the .001 level.

4. In areas with patients born in Austria or Hungary the rate of Austrian and Hungarian psychiatric hospitalization has a correlation of .3682 with the percent of families earning less than $4000, .3283 with the percent of persons with less than an 8th grade education, .5071 with the percent of persons 65+ receiving Old Age Assistance, and -.3171 with median income. These correlation coefficients are all significant at the .001 level.

5. In areas with patients born in the U.S.S.R., the rate of Russian-born psychiatric hospitalization has a correlation of .2296 with the percent of families earning less than $4000, .2111 with the percent of persons with less than an 8th grade education, .3042 with the percent of persons 65+ receiving Old Age Assistance, and -.1845 with median income. These correlations are significant at the .002, .005, .001 and .012 levels respectively.

6. In areas with patients born in Italy, the rate of Italian-born psychiatric hospitalization has a correlation of .2841 with the percent of families earning less than $4000, .0585 with the percent of persons with less than an 8th grade education, .3607 with the percent of persons 65+ receiving Old Age Assistance, and -.2651 with median income. These relationships are significant at the .001, .239, .001, and .001 levels.

Table 23 presents a brief summary of these findings.

TABLE 23

SUMMARY OF HYPOTHESIS 2: SOCIO-ECONOMIC STATUS

	% Families Earning <$4000	% <8th Educ.	% 65 + OAA	Median Income
Irish	.4657	.4201	.4492	-.3922
German	.6367	.6172	.5810	-.5728
Polish	.4275	.3368	.3963	-.3600
Austhung	.3682	.3283	.5071	-.3171
Russian	.2296 (.002)	.2111 (.005)	.3042	-.1845 (.012)
Italian	.2841	.0585 (.239)	.3607	-.2651

The above are correlations coefficients of ethnic-specific hospitalization rates.

All correlations have a significance of .001 unless otherwise noted in parenthesis.

Hypothesis 3: Loss of Like Ethnic Population

Hypothesis 3 states there is a positive relationship between the change in the ethnic compsoition of communities due to an out-migration of a specific foreign-born ethnic group and the rate of psychiatric hospitalization for that group. The following results were obtained.

1. In areas with patients born in Ireland, the rate of Irish-born psychiatric hospitalization has a correlation of -.0302 with percent change in 1st and 2nd generation Irish from 1960 to 1970. This correlation is

significant at the .370 level.

2. In areas with patients born in Germany, the rate of German-born psychiatric hospitalization has a correlation of -.2757 with percent change in 1st and 2nd generation Germans from 1960 to 1970. This correlation coefficient is significant at the .002 level. Since the ethnic change score is compuated as the 1970 rate subtracted from the 1960 rate, this correlation shows a positive relationship between German-born psychiatric hospitalization and an increase in ther German population.

3. In areas with patients born in Poland, the rate of Polish-born psychiatric hospitalization has a correlation of .0445 with percent change in 1st and 2nd generation poles from 1960 to 1970. This correlation is significant at the .304 level.

4. In areas with patients born in Austria or Hungary, the rate of Austrian and Hungarian psychiatric hospitalization has a correlation of .1734 with percent change in 1st and 2nd generation Austrians and Hungarians from 1960 to 1970. This correlation coefficient is significant at the .028 level.

5. In areas with patients born in the U.S.S.R., the rate of Russian-born psychiatric hospitalization has a correlation of -.0909 with percent change in 1st and 2nd generation Russians from 1960 to 1970. This correlation is significant at the .135 level.

6. In areas with patients born in Italy, the rate

of Italian-born psychiatric hospitalization has a correlation of -.0670 with percent change in 1st and 2nd generation Italians from 1960 to 1970. This correlation is significant at the .208 level.

Table 24 presents a brief summary of these findings:

TABLE 24

SUMMARY OF HYPOTHESIS 3: LOSS OF ETHNIC POPULATION

	Correlation with Ethnic Change From 1960 to 1970
Irish	-.0302 (.370)
German	-.2757 (.002)
Polish	.0445 (.304)
Austhung	.1734
Russian	-.0909 (.135)
Italian	-.0670 (.208)

The number in parenthesis indicates the level of significance.

Hypothesis 4: Influx of New Ethnic Groups

Hypothesis 4 states that there is a positive relationship between the change in ethnic composition of communities due to an in-migration of dissimilar racial and ethnic groups and the rate of psychiatric hospitalization of specific foreign-born groups. The following are the results of the analysis:

1. In areas with patients born in Ireland, the rate of Irish-born psychiatric hospitalization has a correlation of .0001 with percent change in Black population from 1960 to 1970 and a correlation of -.1071 with percent change in Puerto Rican population from 1960 to 1970. These correlation coefficients are significant at the .499 and .118 levels respectively.

2. In areas with patients born in Germany, the rate of German-born psychiatric hospitalization has a correlation of -.2364 with percent change in Black population from 1960 to 1970 and a correlation of -.2668 with percent change in Puerto Rican population from 1960 to 1970. These correlations are significant at the .007 and .003 levels respectively.

3. In areas with patients born in Poland, the rate of Polish-born psychiatric hospitalizations has a correlation of -.1568 with percent change in Black population from 1960 to 1970 and a correlation of -.0269 with percent change in Puerto Rican population from 1960 to 1970. These correlations are significant at the .035 and .378 levels respectively.

4. In areas with patients born in Austria or Hungary, the rate of Austrian and Hungarian psychiatric hospitalization has a correlation of -.3076 with percent change in Black population from 1960 to 1970 and a correlation of -.2692 with percent change in Puerto Rican population from 1960 to 1970. These correlation coeffients

are both significant at the .001 level.

5. In areas with patients born in the U.S.S.R., the rate of Russian-born psychiatric hospitalization has a correlation of -.0734 with percent change in Black population from 1960 to 1970 and a correlation of .0236 with percent change in Puerto Rican population from 1960 to 1970. These correlation coefficients are significant at the .187 and .388 levels respectively.

6. In areas with patients born in Italy, the rate of Italian-born psychiatric hospitalization has a correlation of -.1637 with percent change in Black population from 1960 to 1970 and a correlation of .0871 with percent change in Puerto Rican population. These correlation coefficients are significant at the .023 and .145 levels respectively.

Table 25 illustrates the results of testing hypothesis 4.

TABLE 25

SUMMARY OF HYPOTHESIS 4: INFLUX OF NEW ETHNIC GROUPS

	Black Change	Puerto Rican Change
Irish	.0001 (.499)	-.1071 (.118)
German	-.2364 (.007)	-.2668 (.003)
Polish	-.1568 (.035)	-.0269 (.378)
Austhung	-.3076 (.001)	-.2692 (.001)
Russian	-.0734 (.187)	.0236 (.388)
Italian	-.1637 (.023)	.0871 (.145)

The above are correlation coeffients of ethnic specific hospitalization rate.

The numbers in parenthesis are significance levels

Hypothesis 5: Linear Predictor Model

Hypothesis 5 states that substantial variation in ethnic specific foreign-born mental hospitalization rates will be accounted for using census and other sociodemographic data as independent variables in a linear regression model.

As stated above, areas were selected for final analysis if they contained foreign-born persons of that nationality. Table 26 shows the comparative rates of

psychiatric hospitalization for all six groups.

TABLE 26

COMPARATIVE ETHNIC-SPECIFIC FOREIGN-BORN PSYCHIATRIC HOSPITALIZATION RATES

	Mean	Standard Deviation
Irish	.6978	2.6099
German	.2055	.5138
Polish	.4201	1.6184
Austhung	.3772	1.1647
Russian	.4396	1.7020
Italian	.2012	.5259

Data Reduction

In order to develop a suitable model for predicting ethnic-specific psychiatric hospitalization it was necessary to reduce the number of variables available to those few which measure the salient dimensions of areas. Table 27 shows the independent variables used in the subsequent factor analysis.

These variables were factored utilizing subprogram FACTOR of SPSS for each ethnic group.[1] The method of

[1]Nie et al, SPSS: 468-514

TABLE 27

INDEPENDENT VARIABLES USED IN THE FACTOR ANALYSIS

VARIABLES	LABELS
VAR066	FAMILIES UNDER $4000
VAR067	LESS THAN 8TH GRADE EDUCATION
VAR068	UNITS 1.51+ PPR
VAR069	BIRTHS PER FEMALES
VAR070	UNDER 17 ON ADC
VAR071	JD REFERRALS 7-20
VAR072	65+BELOW POV.
VAR073	65+ ON OAA
VAR074	LIVING ALONE
VAR075	MED INCOME CAT
VAR076	10+ UNITS
VAR077	VACANT
VAR078	SUICIDE
VAR079	HOMICIDE
VAR087	BLACK %
VAR088	WHITE %
VAR089	PUERTO RICAN %
VAR090	IRISH
VAR091	GERMAN
VAR092	POLISH
VAR093	AUSTHUNG
VAR094	RUSSIAN
VAR095	ITALIAN
VAR096	MIGRANTS 60-70
VAR099	MIGRANT BEFORE 1925
VAR100	IRISH CHANGE
VAR101	GERMAN CHANGE
VAR102	POLISH CHANGE
VAR103	AUSTHUNG CHANGE
VAR104	RUSSIAN CHANGE
VAR105	ITALIAN CHANGE
VAR106	TOTAL FOREIGN STOCK CHANGE
VAR107	BLACK CHANGE
VAR108	PUERTO RICAN CHANGE
VAR109	PERSONS OVER 65
VAR110	OVER 65 CHANGE
VAR111	HOUSING UNIT CHANGE

factoring used was principal factoring with iteration. "At present this is the most widely used factoring method."[2]

This method can best be described as follows:

> "First, the program determines the number of factors to be extracted from the original or unreduced correlation matrix. The program then replaces the main diagonal elements of the correlation matrix with initial estimates of communalities, the R^2 estimates. Next, it extracts the same number of factors from this reduced matrix, and the variances accounted for by these factors become the new communality estimates. The diagonal elements are then replaced with these new communalities. This process continues until the differences between the two successive communality estimates are negligible."[3]

> "Initial estimates of the communalities are given by the squared multiple correlation between a given variable and the rest of the variables in the matrix."[4]

The factors were rotated from 3 through 10 factors using VARIMAX criteria. "This method of rotation is the most widely used..."[5]. A five factor solution was chosen to best represent the dimensions of areas. Each factor was defined by more than one conceptually meaningful variable.

The factors were examined and variables with high loadings were selected from each factor for inclusion in the final variable sets. Variables which were multiple measures of the same concept were not selected.

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[2]Ibid:480

[3]Ibid

[4]Ibid

[5]Ibid:485

The resulting variables, from each of the five factors, were used in the linear regression equations.

Prediction

Two variables selected from each factor were used in a stepwise regression model using SPSS subprogram REGRESSION.[6] The variable entered the equation two at a time until all 10 variables were included. Larger 15, 20, 25 and 30 variable models were also created. These models did not enhance prediction. Tables 28 through 33 present the 10 variable prediction models.

Chapter VI discusses the conclusions drawn from these analyses.

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[6]Ibid: 320-367

TABLE 28

PREDICTION OF IRISH-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR080 IRELAND-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR066	FAMILIES UNDER $4000	0.18049	0.03258	0.03258	0.18049
VAR075	MED INCOME CAT	0.18259	0.03334	0.00076	-0.16379
VAR102	POLISH CHANGE	0.19438	0.03778	0.00444	0.01498
VAR104	RUSSIAN CHANGE	0.23491	0.05518	0.01740	-0.06898
VAR076	10+ UNITS	0.23828	0.05678	0.00160	0.07557
VAR074	LIVING ALONE	0.23830	0.05679	0.00001	0.02120
VAR088	WHITE %	0.26312	0.06923	0.01244	-0.00220
VAR109	PERSONS OVER 65	0.26718	0.07138	0.00215	-0.07970
VAR094	RUSSIAN	0.29489	0.08696	0.01557	-0.01575
VAR099	MIGRANT BEFORE 1925	0.29545	0.08729	0.00033	0.00571

TABLE 29

PREDICTION OF GERMAN-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR081 GERMANY-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR066	FAMILIES UNDER $4000	0.03105	0.00096	0.00096	0.03105
VAR075	MED INCOME CAT	0.08156	0.00665	0.00569	-0.05228
VAR074	LIVING ALONE	0.14205	0.02018	0.01352	0.08273
VAR076	10+ UNITS	0.14652	0.02147	0.00129	0.04513
VAR094	RUSSIAN	0.16392	0.02687	0.00540	0.02875
VAR099	MIGRANT BEFORE 1925	0.16397	0.02689	0.00002	-0.01390
VAR104	RUSSIAN CHANGE	0.16427	0.02698	0.00010	0.03010
VAR107	BLACK CHANGE	0.17645	0.03114	0.00415	0.03033
VAR088	WHITE %	0.18791	0.03531	0.00418	0.04580
VAR087	BLACK %	0.23055	0.05315	0.01784	-0.07276

TABLE 30

PREDICTION OF POLISH-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR082 POLISH-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR067	LESS THAN 8TH GRADE EDUCATION	0.17229	0.02968	0.02968	0.17229
VAR075	MED INCOME CAT	0.18756	0.03518	0.00549	-0.18735
VAR094	RUSSIAN	0.19064	0.03635	0.00117	-0.11442
VAR099	MIGRANT BEFORE 1925	0.19618	0.03849	0.00214	-0.11453
VAR107	BLACK CHANGE	0.20401	0.04162	0.00313	-0.05588
VAR104	RUSSIAN CHANGE	0.20452	0.04183	0.00021	0.02568
VAR074	LIVING ALONE	0.20460	0.04186	0.00003	-0.02437
VAR076	10+ UNITS	0.20461	0.04187	0.00000	0.05628
VAR088	WHITE %	0.20903	0.04369	0.00183	-0.08113
VAR087	BLACK %	0.23745	0.05638	0.01269	0.05429

TABLE 31

PREDICTION OF AUSTRIAN-BORN AND HUNGARIAN-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR083 AUSTHUNG-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR066	FAMILIES UNDER $4000	0.14597	0.02131	0.02131	0.14597
VAR075	MED INCOME CAT	0.14677	0.02154	0.00024	-0.13508
VAR099	MIGRANT BEFORE 1925	0.16617	0.02761	0.00607	-0.12202
VAR094	RUSSIAN	0.16621	0.02763	0.00001	-0.08297
VAR104	RUSSIAN CHANGE	0.17984	0.03234	0.00471	0.11807
VAR107	BLACK CHANGE	0.18178	0.03305	0.00070	-0.14217
VAR074	LIVING ALONE	0.18724	0.03506	0.00201	0.02203
VAR076	10+ UNITS	0.19475	0.03793	0.00287	0.10371
VAR088	WHITE %	0.19748	0.03900	0.00107	-0.14651
VAR087	BLACK %	0.26281	0.06907	0.03007	0.12021

TABLE 32

PREDICTION OF RUSSIAN-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR084 USSR-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR066	FAMILIES UNDER $4000	0.07195	0.00518	0.00518	0.07195
VAR075	MED INCOME CAT	0.07850	0.00616	0.00098	-0.05983
VAR099	MIGRANT BEFORE 1925	0.09474	0.00898	0.00281	-0.07295
VAR094	RUSSIAN	0.11696	0.01368	0.00470	-0.09751
VAR107	BLACK CHANGE	0.12220	0.01493	0.00125	-0.01098
VAR104	RUSSIAN CHANGE	0.12244	0.01499	0.00006	-0.02131
VAR074	LIVING ALONE	0.12978	0.01684	0.00185	-0.03835
VAR076	10+ UNITS	0.17057	0.02909	0.01225	-0.09233
VAR088	WHITE %	0.23817	0.05673	0.02763	-0.13958
VAR087	BLACK %	0.24707	0.06105	0.00432	0.15063

TABLE 33

PREDICTION OF ITALIAN-BORN PSYCHIATRIC HOSPITALIZATION RATES

DEPENDENT VARIABLE.. VAR085 ITALY-PATIENTS

SUMMARY TABLE

VARIABLE		MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R
VAR066	FAMILIES UNDER $4000	0.06511	0.00424	0.00424	0.06511
VAR075	MED INCOME CAT	0.07012	0.00492	0.00068	-0.06986
VAR074	LIVING ALONE	0.09660	0.00933	0.00442	0.04169
VAR076	10+ UNITS	0.09901	0.00980	0.00047	0.03644
VAR094	RUSSIAN	0.10218	0.01044	0.00064	-0.01273
VAR099	MIGRANT BEFORE 1925	0.12356	0.01527	0.00483	-0.08445
VAR087	BLACK %	0.17000	0.02890	0.01363	0.13357
VAR088	WHITE %	0.17209	0.02961	0.00072	-0.12862
VAR107	BLACK CHANGE	0.24856	0.06178	0.03217	0.02755
VAR104	RUSSIAN CHANGE	0.24861	0.06181	0.00002	-0.04827

Chapter VI

GENERAL CONCLUSIONS

The purpose of this study is to test a series of hypotheses, suggested by existing literature, relating ethnic-specific foreign-born mental hospitalization rates to various socio-demographic characteristics of communities. Specifically, the study assesses the contribution of cultural isolation, socio-economic status and change in ethnic populations in accounting for variability in ethnic-specific mental hospitalization rates.

Conclusions Drawn with Respect to the Support or Rejection of the Hypotheses

Hypothesis 1: The cultural isolation hypothesis was supported by the data for each ethnic group. All of the correlation coefficients were negative and all were significant at the .001 level as shown in table 22. This suggests that cultural isolation plays a considerable role in influencing psychiatric hospitalization in New York City. The areas characterized by cultural isolation were not areas with high suicide rates or with large numbers of persons living alone. These "usual" measures of isolation are not a characteristic of the areas of residence of foreign-born mental patients.

This was not expected.

Hypothesis 2: The socio-economic status hypothesis was rejected for each ethnic group. Areas characterized by foreign-born psychiatric hospitalizations are generally areas with low income and low education levels. The exceptions are areas with Italian-born patients. In these areas the low educational attainment status of the community was unrelated to hospitalization patterns. The relationships varied across groups, from a high correlation of .6367 between German-born psychiatric hospitalization and percent of families earning less than $4000 to a correlation of .2296 between Russian-born psychiatric hospitalization and percent of families earning less that $4000. Most of the relationships were significant at the .001 level. The exceptions are noted in summary Table 23.

Hypothesis 3: The out-migration hypothesis was rejected for the Irish, Poles, Russians and Italians. It was supported for the Austrian-Hungarian group. There was a weak, but positive relationship of .1734 between the rate of psychiatric hospitalization for those born in Austria and Hungary and an out-migration of this group from those areas. There was also a significant inverse relationship between the German-born psychiatric hospitalization rate and the out-migration of Germans. In other words, there was a positive relationship between an increase in the German population in areas from 1960 to 1970 and the rate of psychiatric hospitalization of the German-born. We must

therefore reject hypothesis 3 for the Germans. These relationships are presented in table 24.

Hypothesis 4: The in-migration of "hostile" groups was rejected for the Irish and the Russians. It was partially rejected for the Poles and the Italians. Rates of psychiatric hospitalization were related to an increase in the Black population but not an increase in the Puerto Rican population for both the Poles and Italians. The hypothesis was accepted for the Germans and for those of Austrian and Hungarian birth. The levels of significance are noted in table 25. In sum, no clear pattern exists.

Hypothesis 5: The linear model prediction hypothesis must be rejected. In areas where the foreign-born reside rates of psychiatric hospitalization can not be predicted from measures of characteristics of those areas. Tables 28 through 33 present the cumulative R^2. These numbers are probably an over-estimate. The R^2 or total variance figure should actually be replaced by the shrunken R^2 term.[1] "The reasons for shrinkage is that in calculating the weights to obtain a maximum R, the zero-order correlations are treated as if they were error free. This is of course never the case. Consequently, there is a certain amount of

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[1]Jacob Cohen and Patricia Cohen, Applied Multiple Regression/Correlation Analysis for the Behavior Sciences, Hillsdale, N.J., Lawrence Erlbaum Associates, 1975:106-107.

capitalization or chance, and the resulting R is biased upwards."[2]

Applying the following formula, the shrunken R^2 estimates were calculated:

$$\hat{R}^2 = 1 - (1-R^2)\left(\frac{n-1}{n-k-1}\right)$$

where $\hat{R}^2$ is the estimated shrunken R^2

n is the number of cases and

k is the number of independent variables in the equation

Table 34 presents a comparison of the R^2 and $\hat{R}^2$ terms for each of the foreign born groups.

TABLE 34

COMPARISON OF R^2 AND $\hat{R}^2$

	Cumulative R^2	Estimated R^2
IRISH	.087	.062
GERMAN	.053	.022
POLISH	.056	.025
AUSTHUNG	.069	.039
RUSSIAN	.061	.031
ITALIAN	.062	.032

The above numbers are percent variance accounted for in the dependent variable (ethnic-specific foreign-born psychiatric hospitalization) with 10 independent variables.

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[2]Fred N. Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research, New York: Holt, Rinehart and Winston, 1973:282.

Discussion

The data reveals that both cultural isolation and poverty are strongly related to rates of psychiatric hospitalization for the foreign-born. These same rates seem relatively unrelated to the recent ethnic transition of neighborhoods.

It would appear that those who are marginal in society are vulnerable to psychiatric disorder. The old, the widowed, the foreign-born, living in neighborhoods where the dominant lifestyle, culture and language are different from their own are very much at risk. These individuals, without family or peer support, are among the psychiatric casualties of our urban society.

On the other hand, it has been suggested that isolation may well be a consequence rather than a cause of the mental illnesses that develops in old age.[3]

> "...lifelong extreme isolation (or alienation) is not necessarily conducive to the development of the kinds of mental disorder that brings persons to the psychiatric ward in their old age; lifelong marginal social adjustment may be conducive to the development of such disorder; late developing isolation is apparently linked with mental disorder but it is of no greater significance among those with psychogenic disorders than among those with organic disorders, and may be more of a consequence than a cause of mental illness in the elderly, finally, physical illness may be the critical antecedent to both the isolation and the mental illness."[4]

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[3]Lowenthal, "Antecedents of Isolation and Mental Illness in Old Age."

[4]Lowenthal, "Social Isolation and Mental Illness in Old Age":69.

Very many of the individuals in this study probably migrated, earlier in the century, with their families. They may have lived in ethnic ghettos around the city for years. Many find themselves separated from their ethnic neighborhoods, alone in old age, in need of a cultural link to their past.

We do not know if these persons had a history of mental illness before they migrated to the United States. It has been suggested that "...it seems psychologically most likely that many maladjusted schizothymic personalities should emigration as the best solution to social defeats and adversities in the old country."[5]

"Unless it is assumed that migration is a purely socio-economic fact without psychological determinants, and that the mental disorder observed in migrants is the effect of environmental factors on a quasi-virgin soil, it is essential to know more about its antecedents; one would expect these to shed some light on the relative importance of external pressures and inner drive in bringing about migration in the individual case."[6]

Without knowing the precise causal ordering among migration, isolation and mental illness, the failure of the linear models to predict hospitalization rates for the foreign-born indicates that cultural isolation and poverty

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[5]Odegaard, "Emigration and Mental Health": 552.

[6]A.G. Mezey, "Psychiatric Aspects of Human Migration,":251.

per se are not the causes of mental illness. One could say, to turn a phrase, that they are, perhaps, a sufficient but not necessary condition.

By what mechanism does isolation relate to mental illness? Are there times in the life cycle when persons are more vulnerable to mental disorders? What roles do emotional disposition, life events and the support of others play in precipitating mental illness? Many questions remain unanswered.

Suggestions for Further Research

In order to further the study of mental hospitalization patterns of the foreign-born the following recommendations should be considered.

1. Reinstitute the collection of data on the birthplace of persons hospitalized for psychiatric disorders. In order to expand research opportunities, data on the ethnic origin of the native-born should also be collected. This would enable one to study the influence of ethnicity on mental illness and provide an epidemiological baseline for further examination.

2. Institute the collection of birthplace and ethnic origin or identification data for other psychiatric services, such as public and private outpatient mental health services. This would be extremely helpful in linking ethnicity and mental illness.

3. Institute the collection of birthplace and ethnic origin or identification data for health services and vital statistics. This would enable researchers to examine records for cultural or genetic links to illness.

4. Collect detailed life events data on psychiatric patients. This would allow the investigator to assess the temporal relationship between events and the onset of illness. It would have been enlightening to know the marital, migration, employment and child rearing histories of the patients examined in this study, for example.

5. Collect data on language or mother tongue. If cultural isolation plays as an important role as suggested, this is an important variable to consider.

6. Data collected on ethnicity in prior years, but not available in machine readable form, should be keypunched and provided to researchers for the examination of longitudinal trends.

7. A database should be created containing longitudinal data on mental hospitalizations of the foreign-born. This will allow the study of trends as well as permit more detailed crosstabulations of the characteristics of patients. Had the number of cases available for this study been greater, detailed ethnic-specific diagnostic rates could have been analyzed. The longitudinal data will also provide a more reliable basis for planning mental

health services.

8. The Bureau of the Census should produce detailed crosstabulations at smaller geographical levels. In 1970, data for the foreign-born population, broken down by age and sex, was only available at the SMSA level. It would have been more helpful to have county-level data, or ideally census tract data.

In New York City, rich as it is in ethnic and cultural diversity, one cannot adequately assess the health or mental health needs of its foreign-born population because the data is simply not collected. Without adequate information, the studies in the field of ethnicity and mental health field will remain rhetorical and not empirical. This is unfortunate because planning must be based on the results of research analyzing reliable and valid data.

It is suggested that until such time as adequate data collection is instituted, permitting more detailed ecological studies, emphasis should be placed on the case study approach. We should be studying patterns in the life events of the foreign-born mental patients.

Policy Implications

Mental health facilities are currently planned for communities, not individuals.[7] These communities, be they

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[7]James G. Kelly, "Ecological Constraints on Mental Health Services," American Psychologist, 21 (June, 1966):535-539.

"natural" communities in the classical sense or arbitrary lines drawn on a map are not completely homogeneous.

"The catchment area, health district, or comprehensive health planning area is currently the cornerstone of health and mental health planning. These artificial boundaries are set so that programs' service responsibility for all the people (users and potential users) residing within specific geographical borders may be clearly delineated.[8]

It is generally assumed that in neighborhoods characterized by concentrations of persons of a particular ethnic background, those utilizing the mental health services will be of similar ethnicity. This may not be true. This study suggests that those most at risk may be culturally isolated, surrounded by persons of a different nationality.

Assuming this is true, the staffing patterns of mental health facilities need to be more flexible. Community mental health services may have to transfer patients across catchment boundaries to other facilities, where staff will relate better to the foreign-born patient. For example, in a predominantly Italian neighborhood, the old Russian-born person in need of community mental health services may not find a mental health practitioner who

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[8]Joseph Giordano, "Community Mental Health in a Pluralistic Society," International Journal of Mental Health, 5 (Summer, 1976):10.

speaks yiddish or russian.

This problem also arises with regard to the after-care of discharged foreign-born mental patients. Should these patients be relocated to areas where the dominant culture is similar to their own? Should these community placement centers be staffed by persons with bi-lingual skills?

Perhaps the New York City Department of Mental Health and Retardation Services should maintain a register of mental health clinicians with foreign language skills to be used as special consultants for foreign-born persons with language difficulties.

Finally, with the increased awareness by researchers of the strong influence of culture on behavior, the training of mental health professionals and para-professionals should put more emphasis on these aspects.

"The variety of ethnic styles is enormous, and their significance in shaping personality and determining values is often overlooked. There is significant evidence to indicate that there are marked differences in how various groups perceive and use mental health services. Simply establishing a mental health center in a neighborhood does not guarantee that the various ethnic groups in

the neighborhood will use its services."[9]

It is essential if mental health services are going to address the needs of changing populations in urban areas, the mental health planners and practitioners must be aware of the special problems of the foreign-born patient.

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[9]Ibid:7

APPENDIX

FORM A1-3-79

ADMISSION FORM*

1. ADMISSION OR ACTION — FIRST | R | U | C | D FORM

2. FACILITY NAME

3. FAC. CODE | 4a. WARD/UNIT | 4b. STATUS | 5 CONSECUTIVE NO.

6. CASE NUMBER OR ID NUMBER | 7. SEX | 8. AGE | 9. DATE OF BIRTH month-day-year | 10. LEGAL STATUS (inpatients only) | 11. LEGAL STATUS DATE month-day-year | 12. ADMISSION DATE month-day-year

13. NAME — last | first | middle initial | maiden name | 14a. CATCH. AREA

14b. USUAL ADDRESS — no. and street or rd. | city, town or village | state | zip code | county | 14c. ADDRESS CODE

15. SOCIAL SECURITY NO. | 16. OCCUPATION | 17. NAME AND LOCATION OF LAST PSYCHIATRIC OR RETARDATION FACILITY OR SERVICE

MARK ONLY ONE CHOICE EXCEPT AS SPECIFIED—USE ONLY NO. 2 PENCIL

18. CONSECUTIVE NUMBER

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

19. ACTION CODE — Re-Int | U | C | D Form

20. EMERGENCY — Yes | No

21. VETERAN — Yes | No

22. CITIZENSHIP — U.S. | Other

23. ENVIRONMENT — Farm | City/Village | Rural Non-farm | Unknown

24. RELIGION — Protestant | Roman Catholic | Jewish | None | Other | Unknown

25. ETHNIC GROUP — White | Negro | American Indian | Puerto Rican | Oriental | Other | Unknown | (1) See Instructions

26. PRESENT MARITAL STATUS — Never Married | Married | Remarried | Separated | Divorced/Annulled | Widowed | Unknown

27. HOUSEHOLD COMPOSITION (Mark ALL which apply) — Lives Alone | With Children | With Others | With Spouse | With Siblings | In Institution | With Parents | With Other Relatives | Unknown

28. EDUCATION—HIGHEST GRADE COMPLETED — UNGRADED | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | COLL. 1 | COLL. 2 | COLL. 3 | COLL. 4 | COLL. 5+ | GRAD. SCHOOL | UNKNOWN

29. WEEKLY FAMILY INCOME (Average Net Dollars) — UNDER 50 | 50-99 | 100-149 | 150-199 | 200-249 | 250-299 | 300 OR OVER | UNKNOWN

30. FACILITY CODE

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

31. SOURCE OF REFERRAL — Self | Family or Friend | Clergy | School | Police (Exclud'g Court or Correction Agency) | Private Psychiatrist | Other Private Physician | Mental Health Center | Mental Hospital | General Hosp.–Psychiatric Unit | General Hosp.–Other Unit | Nursing Home | Psychiatric Clinic | Other Psychiatric Facility | Institution for Retarded | Other Retardation Facility | Court or Correction Agency | Public Health or Welfare Agency | Division of Vocational Rehabilitation | Voluntary Agency | Other

32. TIME SINCE LAST PSYCHIATRIC OR RETARDATION SERVICE — NO PRIOR SERVICE | WITHIN SAME DAY | WITHIN 7 DAYS | WITHIN 30 DAYS | WITHIN 6 MOS | WITHIN 1 YEAR | OVER 1 YEAR | LAST SERVICE WAS—RE-PATIENT | OTHER

CODE FOR LAST FACILITY OR SERVICE

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

0 1 2 3 4 | 5 6 7 8 9

33. PRIOR PSYCHIATRIC OR RETARDATION FACILITY OR SERVICE (Mark ALL which apply) — NONE | UNKNOWN

INPATIENT — This Facility | Mental Hospital | Mental Health Center | General Hospital | V. A. Hospital

ALL OTHER — This Facility | Mental Health Center | Nursing Home | Residential Treatment Center | Partial Hosp. | Private Psychiatrist | Other Private Therapist | Retardation Facility | School, Special Class | Hostel or Halfway House

Psychiatrist

Other Private Physician | Other Psychiatric Facility | Other

23. ENVIRONMENT

Farm | City/Village | Rural Non-farm | Unknown

24. RELIGION

Protestant | Roman Catholic | Jewish

None | Other | Unknown

25. ETHNIC GROUP

White | Negro | American Indian | Puerto Rican

Oriental | Other | Unknown | (1) See Instructions

26. PRESENT MARITAL STATUS

Never Married | Married | Remarried | Separated

Divorced/Annulled | Widowed | Unknown

27. HOUSEHOLD COMPOSITION (Mark ALL which apply)

Lives Alone | With Children | With Others

With Spouse | With Siblings | In Institution

With Parents | With Other Relatives | Unknown

28. EDUCATION—HIGHEST GRADE COMPLETED

UNGRADED	1-2	3	4	5	6	7	8	9
10	11	12	VOC BUS OR TECH 1	COLL 1	COLL 2	COLL 3	COLL 4	GRAD SCHOOL	UNKNOWN

29. WEEKLY FAMILY INCOME (Average Net Dollars)

WELFARE | BELOW 50 | 50-99 | 100-149 | 150-199 | 200-299 | 300 AND OVER | UNKNOWN

NO. OF INDIVIDUALS ON FAMILY INCOME

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 AND OVER | UNKNOWN

34. PROBLEM APPRAISAL (Mark ALL which apply)

Consider 2 wks. preceding interview

PHYSICAL FUNCTION DISTURBANCE

- Sleep Problems
- Eating Problems
- Enuresis, Soiling
- Seizures, Convulsions
- Speech Articulation Problems
- Other Physical Problems

INTELLECTUAL DEVELOPMENT

- Inadequate

SOCIAL RELATIONS DISTURBANCE

- With Child
- With Mate, Spouse
- With Other Family
- With Other People

SOCIAL PERFORMANCE DISTURBANCE

- Job
- School
- Housekeeping

OTHER SIGNS AND SYMPTOMS

- Suicidal Thoughts
- Suicidal Acts, Gestures
- Anxiety, Fears, Phobias
- Obsessions, Compulsions
- Depressed Mood, Inferiority
- Somatic Concerns, Hypochondriasis
- Social Withdrawal, Isolation
- Dependency, Clinging
- Grandiosity
- Suspicion, Persecution
- Delusions
- Hallucinations
- Anger, Belligerence, Negativism
- Assaultive Acts
- Alcohol Abuse
- Sexual Problems
- Narcotics, Other Drugs
- Anti Social Attitudes, Acts
- Agitation, Hyperactivity
- Disorientation, Impaired Memory
- Speech Disorg., Incoherence
- Slowed up, Lack of Emotion
- Inappropriate Affect, Appearance, Behavior
- Daily Routine, Leisure Time Impair.

32. TIME SINCE LAST PSYCHIATRIC OR RETARDATION SERVICE

NO PRIOR SERVICE	WITHIN SAME DAY	WITHIN 7 DAYS	WITHIN 30 DAYS	WITHIN 6 MOS	WITHIN 1 YEAR	OVER 1 YEAR	LAST SERVICE WAS— IN-PATIENT	OTHER

CODE FOR LAST FACILITY OR SERVICE

0	1	2	3	4		5	6	7	8	9
0	1	2	3	4		5	6	7	8	9
0	1	2	3	4		5	6	7	8	9

33. PRIOR PSYCHIATRIC OR RETARDATION FACILITY OR SERVICE (Mark ALL which apply) | NONE | UNKNOWN

INPATIENT

- This Facility
- Mental Hospital
- Mental Health Center
- General Hospital
- V. A. Hospital
- Institution for Retarded
- Other

ALL OTHER

- This Facility
- Mental Health Center
- Nursing Home
- Residential Treatment Center
- Partial Hosp.
- Psychiatric Clinic
- Other Psychiatric Facility
- Private Psychiatrist
- Other Private Therapist
- Retardation Facility
- School, Special Class
- Hostel or Halfway House
- Penal Institution
- Other

35. OVERALL SEVERITY OF CONDITION

NOT ILL | SLIGHT | MILD | MODERATE | SEVERE

36. PROBLEM DURATION LESS THAN

WEEK | MONTH | 1 YEAR | 2 YEARS | 2 YEARS & OVER

37. WRITE PSYCHIATRIC DIAGNOSIS OR IMPRESSION (Include Code, Use APA Manual II, 1968)

COMPLETED BY | DATE

I.D.NO. (HOSPITAL FILLS IN.)

Part C - IDENTIFYING DATA (Must be typed or printed clearly in ink.)

NAME OF PATIENT (Last Name) (First Name) (Middle Name)	Male 1☐ Female 2☐	"MEDICARE" CLAIM NO.

STREET ADDRESS	CITY	COUNTY	STATE	ZIP CODE

DATE OF BIRTH	PLACE OF BIRTH	U.S. CITIZEN 1☐ YES 3☐ NO	HOW LONG IN U.S.	HOW LONG IN N.Y.STATE

NAMES OF LIVING RELATIVES OF PATIENT (If No Relatives, Nearest Known Friend)	AGE	STREET ADDRESS	CITY & STATE	PHONE NO.
FATHER				
MOTHER				
HUSBAND OR WIFE				
CHILDREN				
"				
IN EMERGENCY, NOTIFY:				

PREVIOUS HOSPITALIZATIONS FOR MENTAL ILLNESS

NAME OF HOSPITAL	LOCATION (City & State)	DATE OF ADMISSION	LENGTH OF STAY

PREVIOUS NON-PSYCHIATRIC HOSPITALIZATIONS

NAME OF HOSPITAL	LOCATION (City & State)	DATE OF ADMISSION	LENGTH OF STAY	REASON

IN EMERGENCY, NOTIFY:				

PREVIOUS HOSPITALIZATIONS FOR MENTAL ILLNESS

NAME OF HOSPITAL	LOCATION (City & State)	DATE OF ADMISSION	LENGTH OF STAY

PREVIOUS NON-PSYCHIATRIC HOSPITALIZATIONS

NAME OF HOSPITAL	LOCATION (City & State)	DATE OF ADMISSION	LENGTH OF STAY	REASON

DO NOT WRITE IN THIS SPACE

Part D - TO BE COMPLETED BY HOSPITAL ☐ ADMISSION ☐ CHANGE IN STATUS

I have examined the above named patient, and confirm the need for immediate care and treatment for mental illness.

Signature of Admitting Physician

HOSPITAL	DATE OF ADMISSION OR CHANGE	SERVICE-WARD

IDENTIFICATION NO.	CONSECUTIVE NO.	SOCIAL SECURITY NO.	RECEIVED FROM

VETERAN-WAR SERVICE - U.S. FORCES
7 ☐ YES 1 ☐ NO 9 ☐ Not Ascertained

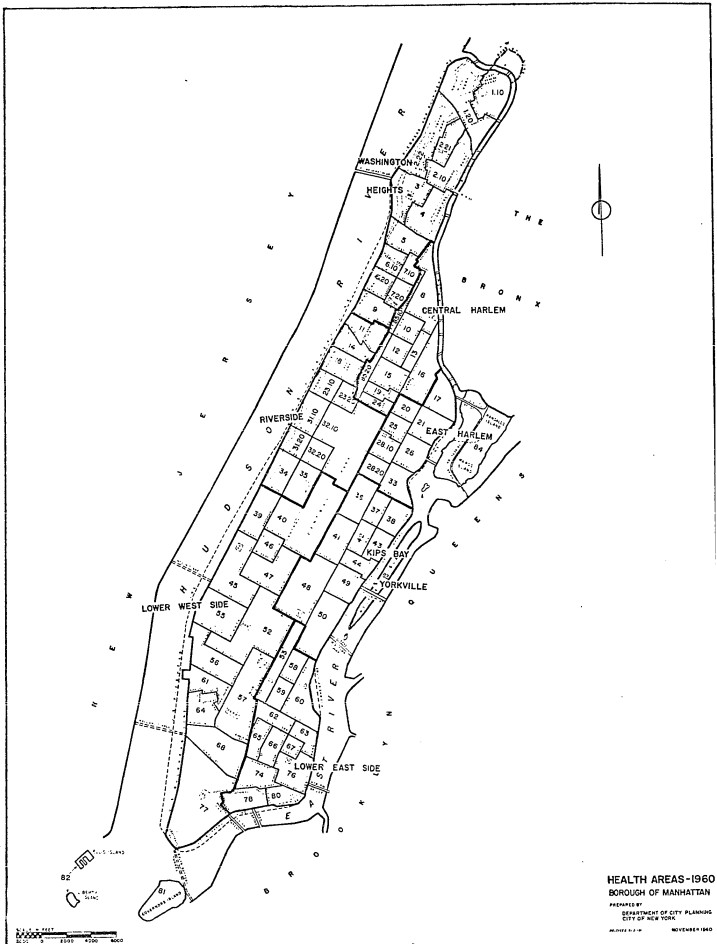
ETHNIC GROUP: 1 ☐ White 2 ☐ Negro 3 ☐ American Indian 4 ☐ Ch
5 ☐ Filipino 6 ☐ Japanese 9 ☐ Other

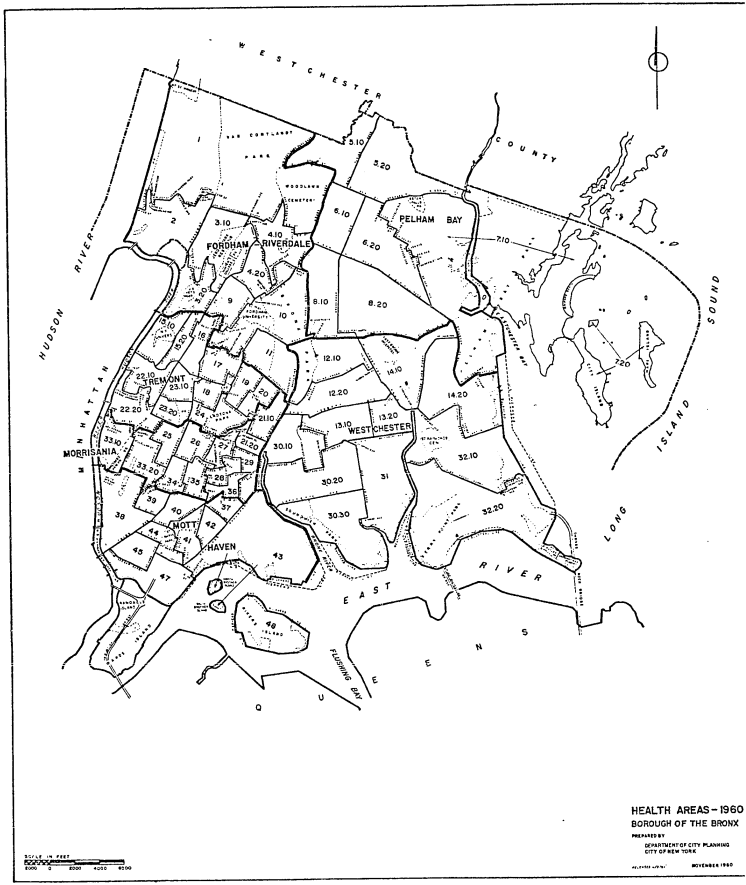
RELIGION: 1 ☐ Protestant 2 ☐ Roman Catholic 3 ☐ Greek Orthodox
4 ☐ Jewish 5 ☐ Other 6 ☐ None 9 ☐ Unascertained

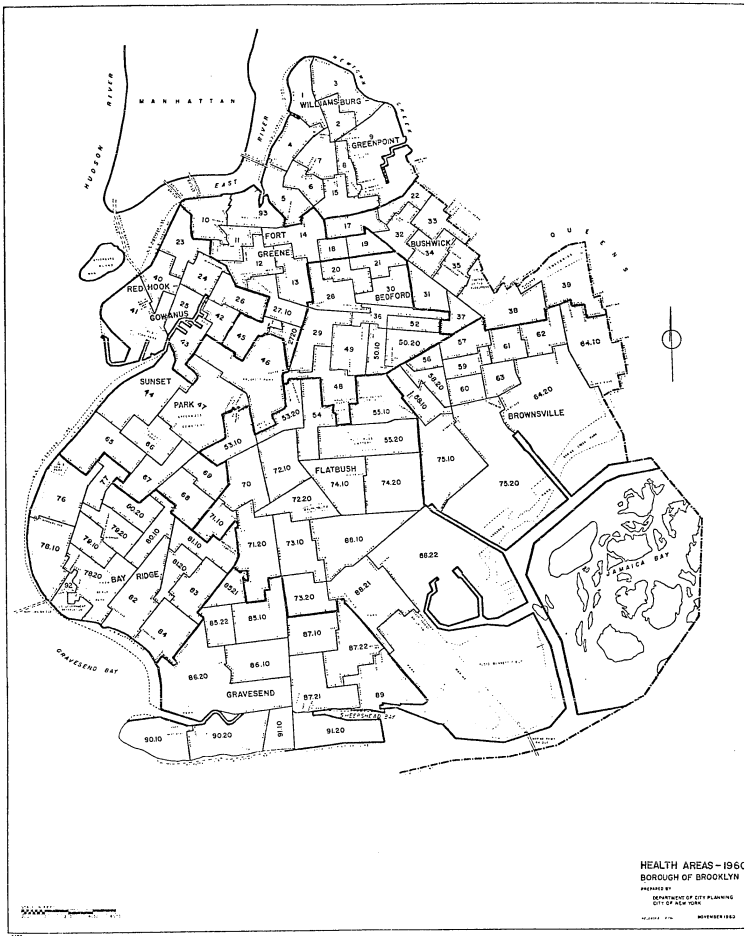
OCCUPATION

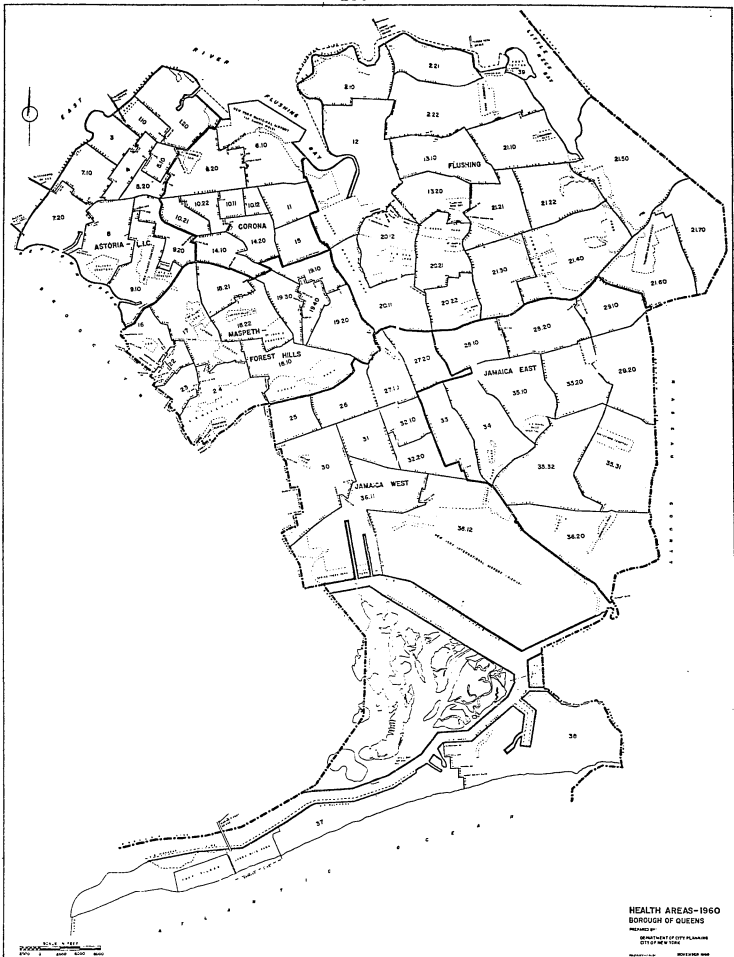
MARITAL STATUS: 1 ☐ Single 2 ☐ Married 3 ☐ Widowed
4 ☐ Separated 5 ☐ Divorced 9 ☐ Unascertained

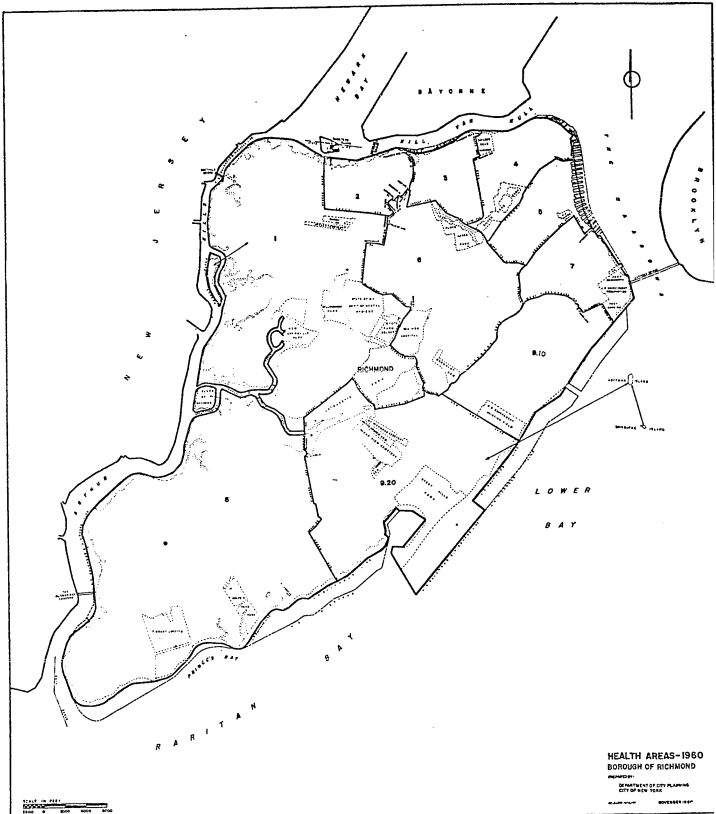
LEGAL STATUS: 20 ☐ Two Physicians
22 ☐ One Physician 23 ☐ Health Offic











DIAGNOSTIC NOMENCLATURE OF THE AMERICAN PSYCHIATRIC ASSOCIATION

I MENTAL RETARDATION
310. Borderline
311. Mild
312. Moderate
313. Severe
314. Profound
315. Unspecified
With each: Following or associated with
.0 Infection or intoxication
.1 Trauma or physical agent
.2 Disorders of metabolism, growth or nutrition
.3 Gross brain disease (postnatal)
.4 Unknown prenatal influence
.5 Chromosomal abnormality
.6 Prematurity
.7 Major psychiatric disorder
.8 Psycho-social (environmental) deprivation
.9 Other condition

II ORGANIC BRAIN SYNDROMES (OBS)
A PSYCHOSES
Senile and pre-senile dementia
290.0 Senile dementia
290.1 Pre-senile dementia
Alcoholic psychosis
291.0 Delirium tremens
291.1 Korsakov's psychosis
291.2 Other alcoholic hallucinosis
291.3 Alcohol paranoid state
291.4* Acute alcohol intoxication*
291.5* Alcoholic deterioration*
291.6* Pathological intoxication*
291.9 Other alcoholic psychosis
Psychosis associated with intracranial infection
292.0 General paralysis
292.1 Syphilis of central nervous system
292.2 Epidemic encephalitis
292.3 Other and unspecified encephalitis
292.9 Other intracranial infection
Psychosis associated with other cerebral condition
293.0 Cerebral arteriosclerosis
293.1 Other cerebrovascular disturbance
293.2 Epilepsy
293.3 Intracranial neoplasm
293.4 Degenerative disease of the CNS
293.5 Brain trauma
293.9 Other cerebral condition
Psychosis associated with other physical condition
294.0 Endocrine disorder
294.1 Metabolic and nutritional disorder
294.2 Systemic infection
294.3 Drug or poison intoxication (other than alcohol)
294.4 Childbirth
294.8 Other and unspecified physical condition

B NON-PSYCHOTIC OBS
309.0 Intracranial infection
309.13* Alcohol* (simple drunkenness)
309.14* Other drug, poison or systemic intoxication*
309.2 Brain trauma
309.3 Circulatory disturbance
309.4 Epilepsy
309.5 Disturbance of metabolism, growth, or nutrition
309.6 Senile or pre-senile brain disease
309.7 Intracranial neoplasm
309.8 Degenerative disease of the CNS
309.9 Other physical condition

III PSYCHOSES NOT ATTRIBUTED TO PHYSICAL CONDITIONS LISTED PREVIOUSLY
Schizophrenia
295.0 Simple
295.1 Hebephrenic
295.2 Catatonic
295.23* Catatonic type, excited*
295.24* Catatonic type, withdrawn*
295.3 Paranoid
295.4 Acute schizophrenic episode
295.5 Latent
295.6 Residual
295.7 Schizo-affective
295.73* Schizo-affective, excited*
295.74* Schizo-affective, depressed*
295.8* Childhood*
295.90* Chronic undifferentiated*
295.99* Other schizophrenia*
Major affective disorders
296.0 Involutional melancholia
296.1 Manic-depressive illness, manic
296.2 Manic-depressive illness, depressed
296.3 Manic-depressive illness, circular
296.33* Manic-depressive, circular, manic*
296.34* Manic-depressive, circular, depressed*
296.8 Other major affective disorder
Paranoid states
297.0 Paranoia
297.1 Involutional paraphrenia
297.9 Other paranoid state
Other psychoses
298.0 Psychotic depressive reaction

IV NEUROSES
300.0 Anxiety
300.1 Hysterical
300.13* Hysterical, conversion type*
300.14* Hysterical, dissociative type*
300.2 Phobic
300.3 Obsessive compulsive
300.4 Depressive
300.5 Neurasthenic
300.6 Depersonalization
300.7 Hypochondriacal
300.8 Other neurosis

V PERSONALITY DISORDERS AND CERTAIN OTHER NON-PSYCHOTIC MENTAL DISORDERS
Personality disorders
301.0 Paranoid
301.1 Cyclothymic
301.2 Schizoid
301.3 Explosive
301.4 Obsessive compulsive
301.5 Hysterical
301.6 Asthenic
301.7 Antisocial
301.81* Passive-aggressive*
301.82* Inadequate*
301.89* Other specified types*
Sexual deviation
302.0 Homosexuality
302.1 Fetishism
302.2 Pedophilia
302.3 Transvestitism
302.4 Exhibitionism
302.5* Voyeurism*
302.6* Sadism*
302.7* Masochism*
302.8 Other sexual deviation
Alcoholism
303.0 Episodic excessive drinking
303.1 Habitual excessive drinking
303.2 Alcoholism addiction
303.9 Other alcoholism

Drug dependence
304.0 Opium, opium alkaloids and their derivatives
304.1 Synthetic analgesics with morphine-like effects
304.2 Barbiturates
304.3 Other hypnotics and sedatives or "tranquilizers"
304.4 Cocaine
304.5 Cannabis sativa (hashish, marihuana)
304.6 Other psycho-stimulants
304.7 Hallucinogens
304.8 Other drug dependence

VI PSYCHOPHYSIOLOGIC DISORDERS
305.0 Skin
305.1 Musculoskeletal
305.2 Respiratory
305.3 Cardiovascular
305.4 Hemic and lymphatic
305.5 Gastro-intestinal
305.6 Genito-urinary
305.7 Endocrine
305.8 Organ of special sense
305.9 Other type

VII SPECIAL SYMPTOMS
306.0 Speech disturbance
306.1 Specific learning disturbance
306.2 Tic
306.3 Other psychomotor disorder
306.4 Disorders of sleep
306.5 Feeding disturbance
306.6 Enuresis
306.7 Encopresis
306.8 Cephalalgia
306.9 Other special symptom

VIII TRANSIENT SITUATIONAL DISTURBANCES
307.0* Adjustment reaction of infancy*
307.1* Adjustment reaction of childhood*
307.2* Adjustment reaction of adolescence*
307.3* Adjustment reaction of adult life*
307.4* Adjustment reaction of late life*

IX BEHAVIOR DISORDERS OF CHILDHOOD AND ADOLESCENCE
308.0* Hyperkinetic reaction*
308.1* Withdrawing reaction*
308.2* Overanxious reaction*
308.3* Runaway reaction*
308.4* Unsocialized aggressive reaction*
308.5* Group delinquent reaction*
308.9* Other reaction*

X CONDITIONS WITHOUT MANIFEST PSYCHIATRIC DISORDER AND NON-SPECIFIC CONDITIONS
Social maladjustment without manifest psychiatric disorder
316.0* Marital maladjustment*
316.1* Social maladjustment*
316.2* Occupational maladjustment*
316.3* Dyssocial behavior*
316.9* Other social maladjustment*
Non-specific conditions
317* Non-specific conditions*
No Mental Disorder
318* No mental disorder*

XI NON-DIAGNOSTIC TERMS FOR ADMINISTRATIVE USE
319.0* Diagnosis deferred*
319.1* Boarder*
319.2* Experiment only*
319.3* Other*

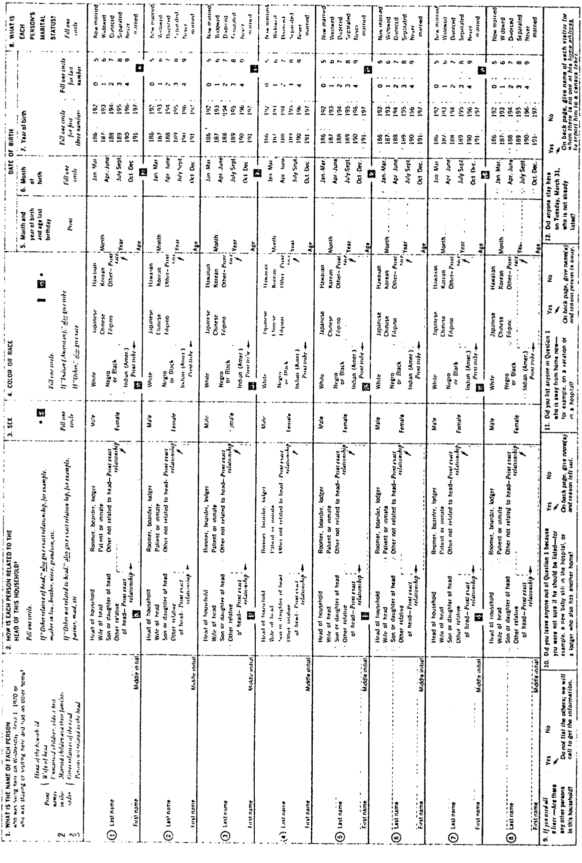
* Categories added to ICD-8 for use in U.S. only.

FIFTH DIGIT QUALIFYING PHRASES

Section II	Section III	Sections IV through IX	All disorders
.X1 Acute	.X6 Not psychotic now	.X6 Mild	.X5 In remission
.X2 Chronic		.X7 Moderate	
		.X8 Severe	

Figure 1. 1970 Census Questionnaire

80, 15, and 5 percent (100 percent)



1. WHAT IS THE NAME OF EACH PERSON who was living here on Wednesday, April 1, 1970 or who was staying or visiting here and had no other home? Print names in this order: Head of the household; Wife of head; Unmarried children, oldest first; Married children and their families; Other relatives of the head; Persons not related to the head	2. HOW IS EACH PERSON RELATED TO THE HEAD OF THIS HOUSEHOLD? Fill one circle. If "Other relative of head," also give exact relationship, for example, mother-in-law, brother, niece, grandson, etc. If "Other not related to head," also give exact relationship, for example, partner, maid, etc.	3. SEX Fill one circle	4. COLOR OR RACE Fill one circle. If "Indian (American)," also give tribe. If "Other," also give race.	5. Month and year of birth and age last birthday Print	6. Month of birth Fill one circle	7. Year of birth Fill one circle for first three numbers / Fill one circle for last number	8. WHAT IS EACH PERSON'S MARITAL STATUS? Fill one circle
(1) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(2) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(3) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(4) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(5) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(6) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(7) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married
(8) Last name / First name / Middle initial	Head of household; Wife of head; Son or daughter of head; Other relative of head—Print exact relationship; Roomer, boarder, lodger; Patient or inmate; Other not related to head—Print exact relationship	Male; Female	White; Negro or Black; Indian (Amer.) Print tribe; Japanese; Chinese; Filipino; Hawaiian; Korean; Other—Print race	Month; Year; Age	Jan.-Mar.; Apr.-June; July-Sept.; Oct.-Dec.	186 187 188 189 190 191; 192 193 194 195 196 197; 0 1 2 3 4; 5 6 7 8 9	Now married; Widowed; Divorced; Separated; Never married

9. If you used all 8 lines—Are there any other persons in this household? Yes / No. Do not list the others; we will call to get the information.

10. Did you leave anyone out of Question 1 because you were not sure if he should be listed—for example, a new baby still in the hospital, or a lodger who also has another home? Yes / No. On back page, give name(s) and reason left out.

11. Did you list anyone in Question 1 who is away from home now—for example, on a vacation or in a hospital? Yes / No. On back page, give name(s) and reason person is away.

12. Did anyone stay here on Tuesday, March 31, who is not already listed? Yes / No. On back page, give name of each visitor for whom there is no one at his home address to report him to a census taker.

Figure 1. **1970 Census Questionnaire**--Continued

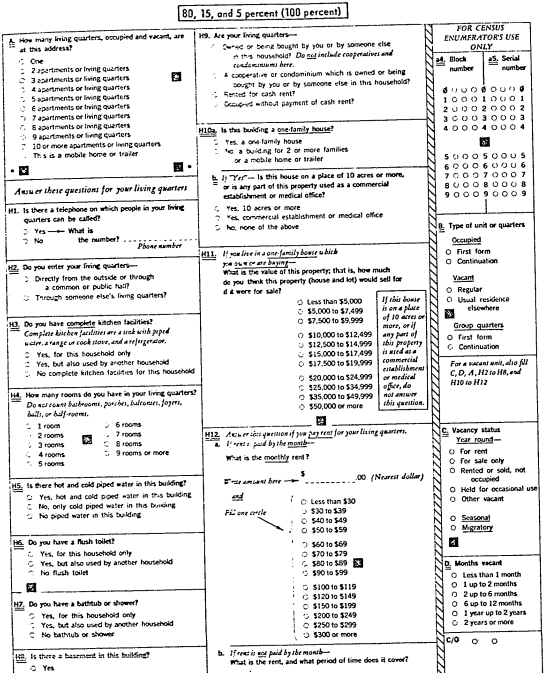


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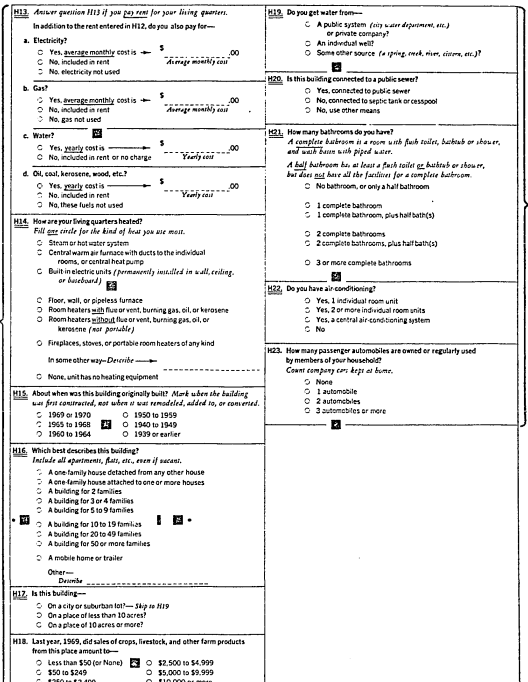
Figure 1. 1970 Census Questionnaire–Continued

Sample Housing Questions



H13. *Answer question H13 if you pay rent for your living quarters.*

In addition to the rent entered in H12, do you also pay for—

a. Electricity?
- ○ Yes, average monthly cost is → $ _____.00 *Average monthly cost*
- ○ No, included in rent
- ○ No, electricity not used

b. Gas?
- ○ Yes, average monthly cost is → $ _____.00 *Average monthly cost*
- ○ No, included in rent
- ○ No, gas not used

c. Water? **5**
- ○ Yes, yearly cost is → $ _____.00 *Yearly cost*
- ○ No, included in rent or no charge

d. Oil, coal, kerosene, wood, etc.?
- ○ Yes, yearly cost is → $ _____.00 *Yearly cost*
- ○ No, included in rent
- ○ No, these fuels not used

H14. How are your living quarters heated?
Fill one circle for the kind of heat you use most.
- ○ Steam or hot water system
- ○ Central warm air furnace with ducts to the individual rooms, or central heat pump
- ○ Built-in electric units *(permanently installed in wall, ceiling, or baseboard)* **6**
- ○ Floor, wall, or pipeless furnace
- ○ Room heaters with flue or vent, burning gas, oil, or kerosene
- ○ Room heaters without flue or vent, burning gas, oil, or kerosene *(not portable)*
- ○ Fireplaces, stoves, or portable room heaters of any kind

In some other way—*Describe* →

- ○ None, unit has no heating equipment

15 and 5 percent

H15. About when was this building originally built? *Mark when the building was first constructed, not when it was remodeled, added to, or converted.*
- ○ 1969 or 1970
- ○ 1965 to 1968 **A**
- ○ 1960 to 1964
- ○ 1950 to 1959
- ○ 1940 to 1949
- ○ 1939 or earlier

H16. Which best describes this building?
Include all apartments, flats, etc., even if vacant.
- ○ A one-family house detached from any other house
- ○ A one-family house attached to one or more houses
- ○ A building for 2 families
- ○ A building for 3 or 4 families
- ○ A building for 5 to 9 families
- ○ A building for 10 to 19 families **B**
- ○ A building for 20 to 49 families
- ○ A building for 50 or more families
- ○ A mobile home or trailer

Other—
Describe _____

H17. Is this building—
- ○ On a city or suburban lot? — *Skip to H19*
- ○ On a place of less than 10 acres?
- ○ On a place of 10 acres or more?

H18. Last year, 1969, did sales of crops, livestock, and other farm products from this place amount to—
- ○ Less than $50 (or None) **C**
- ○ $50 to $249
- ○ $250 to $2,499
- ○ $2,500 to $4,999
- ○ $5,000 to $9,999
- ○ $10,000 or more

H19. Do you get water from—
- ○ A public system *(city water department, etc.)* or private company?
- ○ An inhabited well?
- ○ Some other source *(a spring, creek, river, cistern, etc.)*?

C

H20. Is this building connected to a public sewer?
- ○ Yes, connected to public sewer
- ○ No, connected to septic tank or cesspool
- ○ No, use other means

H21. How many bathrooms do you have?
A complete bathroom is a room with flush toilet, bathtub or shower, and wash basin with piped water.
A half bathroom has at least a flush toilet or bathtub or shower, but does not have all the facilities for a complete bathroom.
- ○ No bathroom, or only a half bathroom
- ○ 1 complete bathroom
- ○ 1 complete bathroom, plus half bath(s)
- ○ 2 complete bathrooms
- ○ 2 complete bathrooms, plus half bath(s)
- ○ 3 or more complete bathrooms

15 percent

H22. Do you have air-conditioning?
- ○ Yes, 1 individual room unit
- ○ Yes, 2 or more individual room units
- ○ Yes, a central air-conditioning system
- ○ No

H23. How many passenger automobiles are owned or regularly used by members of your household?
Count company cars kept at home.
- ○ None
- ○ 1 automobile
- ○ 2 automobiles
- ○ 3 automobiles or more

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Figure 1. 1970 Census Questionnaire--Continued

Sample Housing Questions

The 15-percent form contains the questions shown on page 4. The 5-percent form contains the questions shown in the first column of page 4 and the questions on page 5.

H24a. How many stories (floors) are in this building?
- 1 to 3 stories
- 4 to 6 stories
- 7 to 12 stories
- 13 stories or more

b. *If 4 or more stories*— Is there a passenger elevator in this building?
- Yes
- No

H25a. Which fuel is used most for cooking?

Gas — From underground pipes serving the neighborhood		Coal or coke
Gas — Bottled, tank, or LP		Wood
Electricity		Other fuel
Fuel oil, kerosene, etc.		No fuel used

b. Which fuel is used most for house heating?

Gas — From underground pipes serving the neighborhood		Coal or coke
Gas — Bottled, tank, or LP		Wood
Electricity		Other fuel
Fuel oil, kerosene, etc.		No fuel used

c. Which fuel is used most for water heating?

Gas — From underground pipes serving the neighborhood		Coal or coke
Gas — Bottled, tank, or LP		Wood
Electricity		Other fuel
Fuel oil, kerosene, etc.		No fuel used

H26. How many bedrooms do you have? *Count rooms used mainly for sleeping even if used also for other purposes.*
- No bedroom
- 1 bedroom
- 2 bedrooms
- 3 bedrooms
- 4 bedrooms
- 5 bedrooms or more

5 percent

H27a. Do you have a clothes washing machine?
- Yes, automatic or semi-automatic
- Yes, wringer or separate spinner
- No

b. Do you have a clothes dryer?
- Yes, electrically heated
- Yes, gas heated
- No

c. Do you have a dishwasher *(built-in or portable)*?
- Yes
- No

d. Do you have a home food freezer which is separate from your refrigerator?
- Yes
- No

H28a. Do you have a television set? *Count only sets in working order.*
- Yes, one set
- Yes, two or more sets
- No

b. *If "Yes"*— Is any set equipped to receive UHF broadcasts, that is, channels 14 to 83?
- Yes
- No

H29. Do you have a battery-operated radio? *Count car radios, transistors, and other battery-operated sets in working order or needing only a new battery for operation.*
- Yes, one or more
- No

H30. Do you (or any member of your household) own a second home or other living quarters which you occupy sometime during the year?
- Yes
- No

16

Figure 1. 1970 Census Questionnaire--Continued

Sample Population Questions

The 15-percent and 5-percent forms contain a pair of facing pages for each person in the household (as listed on page 2). Shown on each pair of pages in the 15-percent form are the questions designated as 15-percent here on pages 5, 7, and 8. Shown on each pair of pages in the 5-percent form are the questions designated as 5-percent here on pages 6, 7, and 8.

Name of person on line (1) of page 2

Last name — First name — Initial

15 and 5 percent

33a. Where was this person born? *If born in hospital: give State or country where mother lived. If born outside U.S., see instruction sheet; distinguish Northern Ireland from Ireland (Eire).*
- ○ This State
- OR
- *(Name of State or foreign country, or Puerto Rico, Guam, etc.)*

5 percent

b. Is this person's origin or descent— *(Fill one circle.)*
- ○ Mexican
- ○ Puerto Rican
- ○ Cuban
- ○ Central or South American
- ○ Other Spanish
- ○ No, none of these

15 percent

14. What country was his father born in?
- ○ United States
- OR
- *(Name of foreign country, or Puerto Rico, Guam, etc.)*

15. What country was his mother born in?
- ○ United States
- OR
- *(Name of foreign country, or Puerto Rico, Guam, etc.)*

5 percent

16. *For persons born in a foreign country—*

a. Is this person naturalized?
- ○ Yes, naturalized
- ○ No, alien
- ○ Born abroad of American parents

b. When did he come to the United States to stay?

○ 1965 to 70	○ 1950 to 54	○ 1925 to 34
○ 1960 to 64	○ 1945 to 49	○ 1915 to 24
○ 1955 to 59	○ 1935 to 44	○ Before 1915

15 percent

17. What language, other than English, was spoken in this person's home when he was a child? *Fill one circle.*
- ○ Spanish
- ○ French
- ○ German
- ○ Other— *Specify* _____
- ○ None, English only

18. When did this person move into this house (or apartment)? *Fill circle for date of last move.*

○ 1969 or 70	○ 1965 or 66	○ 1949 or earlier
○ 1968	○ 1960 to 64	○ Always lived in this house or apartment
○ 1967	○ 1950 to 59	

19a. Did he live in this house on April 1, 1965? *If in college or Armed Forces in April 1965, report place of residence there.*
- ○ Born April 1965 or later
- ○ Yes, this house ..... *Skip to 20*
- ○ No, different house

b. Where did he live on April 1, 1965?

(1) State, foreign country, U.S. possession, etc. _____

(2) County _____

(3) Inside the limits of a city, town, village, etc.?
- ○ Yes
- ○ No

(4) *If "Yes,"* name of city, town, village, etc. _____

15 percent

20. Since February 1, 1970, has this person attended regular school or college at any time? *Count nursery school, kindergarten, and schooling which leads to an elementary school certificate, high school diploma, or college degree.*
- ○ No
- ○ Yes, public
- ○ Yes, parochial
- ○ Yes, other private

15 and 5 percent

21. What is the highest grade (or year) of regular school he has ever attended?
Fill one circle. If now attending, mark grade he is in.
- ○ Never attended school— *Skip to 23*
- ○ Nursery school
- ○ Kindergarten

Elementary through high school (grade or year)

1	2	3	4	5	6	7	8	9	10	11	12
○	○	○	○	○	○	○	○	○	○	○	○

College (academic year)

1	2	3	4	5	6 or more
○	○	○	○	○	○

15 and 5 percent

22. Did he finish the highest grade (or year) he attended?
- ○ Now attending this grade (or year)
- ○ Finished this grade (or year)
- ○ Did not finish this grade (or year)

23. When was this person born?
- ○ Born before April 1956— *Please go on with questions 24 through 41.*
- ○ Born April 1956 or later— *Please omit questions 24 through 41 and go to the next page for the next person.*

5 percent

24. *If this person has ever been married—*

a. Has this person been married more than once?
- ○ Once
- ○ More than once

b. When did he get married? — When did he get married for the first time?

Month — Year — Month — Year

c. *If married more than once—* Did the first marriage end because of the death of the husband (or wife)?
- ○ Yes
- ○ No

15 and 5 percent

25. *If this is a girl or a woman—*

How many babies has she ever had, not counting stillbirths? *Do not count her stepchildren or children she has adopted.*

1	2	3	4	5	6	7	8
○	○	○	○	○	○	○	○

9	10	11	12 or more	None
○	○	○	○	○

15 percent

26. *If this is a man—*

a. Has he ever served in the Army, Navy, or other Armed Forces of the United States?
- ○ Yes
- ○ No

b. Was it during— *(Fill the circle for each period of service.)*
- Vietnam Conflict *(Since Aug. 1964)* ..... ○
- Korean War *(June 1950 to Jan. 1955)* ..... ○
- World War II *(Sept. 1940 to July 1947)* ..... ○
- World War I *(April 1917 to Nov. 1918)* ..... ○
- Any other time ..... ○

Figure 1. 1970 Census Questionnaire--Continued

Sample Population Questions

27a. Has this person ever completed a vocational training program?
For example, in high school; as apprentice; in school of business, nursing, or trades; technical institute; or Armed Forces schools.

○ Yes ○ No— *Skip to 28*

b. What was his main field of vocational training? *Fill one circle.*

- ○ Business, office work
- ○ Nursing, other health fields
- ○ Trades and crafts *(watchmaker, electrician, beautician, etc.)*
- ○ Engineering or science technician, draftsman
- ○ Agriculture or home economics
- ○ Other field– *Specify*

5 percent

28a. Does this person have a health or physical condition which limits the kind or amount of work he can do at a job?
If 65 years old or over, skip to question 29.

○ Yes ○ No

b. Does his health or physical condition keep him from holding any job at all?

○ Yes ○ No

c. If "Yes" in a or b— How long has he been limited in his ability to work?

- ○ Less than 6 months
- ○ 6 to 11 months
- ○ 1 to 2 years
- ○ 3 to 4 years
- ○ 5 to 9 years
- ○ 10 years or more

QUESTIONS 29 THROUGH 41 ARE FOR ALL PERSONS BORN BEFORE APRIL 1956 INCLUDING HOUSEWIVES, STUDENTS, OR DISABLED PERSONS AS WELL AS PART-TIME OR FULL-TIME WORKERS

15 and 5 percent

29a. Did this person work at any time last week?

○ Yes– *Fill this circle if this person did full- or part-time work. (Count part-time work such as a Saturday job, delivering papers, or helping without pay in a family business or farm; and active duty in the Armed Forces)*

○ No– *Fill this circle if this person did not work, or did only own housework, school work, or volunteer work.*

Skip to 30

b. How many hours did he work last week (at all jobs)?
Subtract any time off and add overtime or extra hours worked.

- ○ 1 to 14 hours
- ○ 15 to 29 hours
- ○ 30 to 34 hours
- ○ 35 to 39 hours
- ○ 40 hours
- ○ 41 to 48 hours
- ○ 49 to 59 hours
- ○ 60 hours or more

c. Where did he work last week?
If he worked in more than one place, print where he worked most last week.
If he travels about in his work or the place does not have a numbered address, see instruction sheet.

(1) Address *(Number and street name)* _____

(2) Name of city, town, village, etc. _____

(3) Inside the limits of this city, town, village, etc.?
○ Yes ○ No

(4) County _____

(5) State _____ (6) ZIP Code _____

15 percent

d. How did he get to work last week? *Fill one circle for chief means used on the last day he worked at the address given in 29c.*

- Driver, private auto
- Passenger, private auto
- Bus or streetcar
- Subway or elevated
- Railroad
- Taxicab
- Walked only
- Worked at home
- Other means–*Specify*

After completing question 29d, skip to question 33.

30. Does this person have a job or business from which he was temporarily absent or on layoff last week?

○ Yes, on layoff
○ Yes, on vacation, temporary illness, labor dispute, etc.
○ No

31a. Has he been looking for work during the past 4 weeks?

○ Yes ○ No— *Skip to 32*

15 and 5 percent

b. Was there any reason why he could not take a job last week?

- ○ Yes, already has a job
- ○ Yes, because of this person's temporary illness
- ○ Yes, for other reasons (in school, etc.)
- ○ No, could have taken a job

32. When did he last work at all, even for a few days?

- ○ In 1970
- ○ In 1969
- ○ In 1968
- ○ 1964 to 1967
- ○ 1960 to 1963
- ○ 1959 or earlier *Skip*
- ○ Never worked

– continued –

18

Figure 1. 1970 Census Questionnaire--Continued

Sample Population Questions

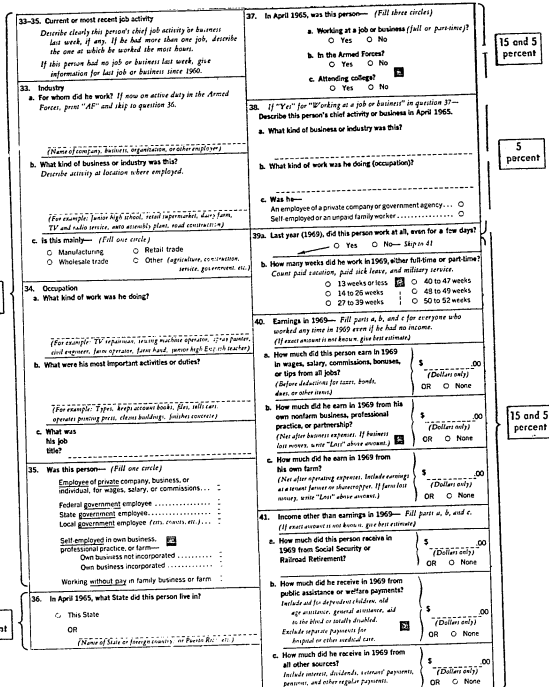

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Table 1 provides a summarized comparison of the 1970 census items with the 1960 content. That the 1970 items do not differ strikingly from 1960 is not surprising. Although many new items were proposed, the dominant tone through most discussions of improvement of the 1970 product by users was for a greater exploitation of the existing (1960) items by more intensive cross-tabulation and by providing additional data for small areas. Thus, while a number of new items have been added on a sample basis (primarily to meet the program needs of Federal agencies), the subject needs which the decennial census serve have not changed greatly during the decade.

The stability of the census items stems from a desire to develop historical continuity in data series. This continuity is sometimes lost, however, and should be examined carefully on a case-by-case basis. A question asked for one census may not be asked for the next because it no longer yields useful data, or it is no longer important in most localities, or it may yield unreliable data. For example, the 1960 item on structural condition was dropped because it was based on a subjective rating made by the enumerators, which post-census evaluation studies found in many cases to be unreliable and inaccurate.

Table 1. 1970 Census Items Compared With 1960 Content

Population items	Complete-count or sample percentage	
	1960	1970
Relationship to head of household	100	100
Color or race	100	100
Age (month and year of birth)	100	100
Sex	100	100
Marital Status	100	100
State or country of birth	25	20
Years of school completed	25	20
Number of children ever born	25	20
Activity 5 years ago	-	20
Employment Status	25	20
Hours worked last week	25	20
Weeks worked last year	25	20
Last year in which worked	25	20
Occupation, industry, and class of worker	25	20
Income last year:		
Wage and salary income	25	20
Self-employment income	25	[1]20
Other income	25	[2]20
Country of birth of parents	25	15
Mother tongue	25	15
Year moved into this house	25	15
Place of residence 5 years ago	25	[3]15
School or college enrollment (public or private)	25	15
Veteran status	25	15
Place of work	25	[4]15
Means of transportation to work	25	15
Mexican or Spanish origin or descent	-	5
Citizenship	-	5
Year of immigration	-	5
Marital history	25	[5]5
Vocational training completed	-	5
Presence and duration of disability	-	5
Occupation-industry 5 years ago	-	5

[1]Single item in 1960; two-way separation in 1970 by farm and nonfarm income.

[2]Single item in 1960; three-way separation in 1970 by social security, public assistance, and all other receipts.

[3]This item is also in the 5-percent sample but limited to State of residence 5 years ago.

[4]Street address included for 1970.

[5]In 1960, whether married more than once and date of first marriage; in 1970 also includes whether first marriage ended by death of spouse.

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Table 1: 1970 Census Items Compared With 1960 Content--Continued

Housing items	Complete-count or sample percentage	
	1960	1970
Number of units at this address	-	[6]100
Telephone available	25	[7]100
Access to unit	100	100
Kitchen or cooking facilities	100	-
Complete kitchen facilities	-	100
Condition of housing unit	100	-
Rooms	100	100
Water supply	100	100
Flush toilet	100	100
Bathtub or shower	100	100
Basement	20	100
Tenure	100	100
Commercial establishment on property	[8]100	100
Value	[8]100	100
Contract rent	[8]100	100
Vacancy status	100	100
Months vacant	25	100
Heating equipment	25	20
Components of gross rent	25	20
Year structure built	25	20
Number of units in structure and whether a trailer	20	20
Farm residence (acreage and sales of farm products)	[9]25	20
Land used for farming	[10]25	-
Source of water	[9]20	15
Sewage disposal	[9]20	15
Bathrooms	20	15
Air conditioning	5	15
Automobiles	[11]20	15
Stories, elevator in structure	[12]20	5
Fuel--heating, cooking, water heating	5	5
Bedrooms	5	5
Clothes washing machine	5	5
Clothes dryer	5	5
Dishwasher	-	5
Home food freezer	5	5
Television	5	5
Radio	5	5
Second home	-	5

[6]Collected primarily for coverage check purposes.
[7]Required on 100-percent basis for field follow-up purposes in mail areas.
[8]100-percent in places of 50,000 or more inhabitants, 25-percent elsewhere.
[9]Omitted in places of 50,000 or more inhabitants.
[10]For renter-occupied and vacant-for-rent units outside places of 50,000 or more inhabitants.
[11]20-percent in places of 50,000 or more inhabitants, 5-percent elsewhere.
[12]Collected only in places of 50,000 or more inhabitants.

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