SOCIAL CLASS AND MENTAL HOSPITALIZATION PROGNOSIS

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by

Kenneth Roy Davidson

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ABSTRACT

The primary purpose of this study was to investigate the duration of initial hospitalization of schizophrenic patients, and to test the hypothesis that prolonged mental illness was inversely related to the class level of the patient.

The population upon which the hypothesis was tested, consisted of male schizophrenics, admitted to the Hospital for Mental Diseases at Selkirk, Manitoba, during the years 1956 to 1961, who were free from known cortical damage, serious incapacitating somatic illness, and mental deficiency. There were four hundred and fifty-five patients who met these conditions.

By means of a schedule form, comparable data on each patient was abstracted from the clinical case records kept in the records office of the hospital. The information obtained on each patient consisted of (a) the total length of time spent in hospital (dependent variable) (b) ten selected social and clinical factors (independent variables). The clinical factors included: diagnostic sub- type, number of previous admissions, and family history of mental disease. The social factors included: social class, marital status, age on admission,

religion, environment, form of admission, and ethnic background.

By means of contingency tables, the dependent variable was related to all independent variables. A Chi Square analysis was used in all tests and the one per cent level of confidence was selected as the minimum for the determination of significance.

The initial analysis of the study indicated that the dependent variable was related to the following six independent variables: social class, marital status, environment, form of admission, age on admission, and diagnostic sub-type.

In the second major analysis, each of the six significant variables, in turn, were studied in relation to each of the remaining five significant variables, to test the possibility of interdependence. It was clear from this analysis that these variables, which initially were found to be related to length of stay, were themselves interrelated to a significant degree. This result necessitated further analysis, since the lack of independence naturally raised the possibility that some of the initial results were confounded by the influence of the other interrelated

variables. In this final analysis, the association between each significant variable on length of hospital stay was studied controlling for all intervening variables, one at a time.

On the basis of the findings of this last analysis, the following conclusions were drawn concerning the significance of the six independent variables in their relation to prognosis in schizophrenia. When all intervening variables were controlled, social class continued to be linked significantly with length of hospital stay. In general, the higher the social class level of the patient the shorter his duration of hospitalization. Explanatory hypotheses were offered to explain the duration differentials between upper and lower class patients. No prognostic worth could be attributed to such variables as: religion, family history of mental disease, number of previous admissions, ethnic background, and form of admission. The factor of age on admission seemed to have prognostic importance, only if it was considered in relation to marital status and the paranoid sub-type of schizophrenia. Similarly, environment seemed to have prognostic importance, only if it was considered in relation to social class. Other

variables which seemed to be of some prognostic value were marital status and diagnostic sub-type. Specifically, the prognosis was most favorable when the patient was married, and suffered from schizophrenia, paranoid condition.

In the light of these findings it was suggested, in the final chapter of the thesis, that further research, similar to that undertaken at the Selkirk Mental Hospital, might well prove fruitful in developing a predictive instrument, based on relatively objective clinical and social factors.

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CHAPTER I

INTRODUCTION

The general purpose of this research project is to report on the relationship between the social class position of schizophrenic patients and the duration of their initial hospitalization.

More specifically, this study is concerned with an exploratory attempt to obtain some conception of the significant factors or constellation of factors which affect the length of hospitalization of schizophrenic patients. The urgency of the need to find these factors is dictated by two considerations: the growing magnitude of the incidence of schizophrenic disorders, and the increasing awareness among psychiatrists that objective determination of psychiatric prognosis is desirable. The growth of the incidence of long-stay schizophrenic patients can be gauged from the following figures. In mental hospitals in Britain and America, it has been estimated that the average length of hospitalization for schizophrenic patients is twelve years.[1]

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[1] See for example, Leopold Bellak, Schizophrenia: A Review of the Syndrome, (New York, Logos Press, Inc., 1958), p. 75; Morton Kramer, "Long Range Studies of Mental Hospital Patients, An Important Area for Research in Chronic Disease", Milbank Memorial Fund Quarterly, 31:253, 1953; Registrar General of England and Wales, Statistical Review of England and Wales For the Year 1949, Supplement on General Morbidity and Mental Health, (London: H.M.S.O., 1953).

This tremendous chronicity is reflected in the fact that approximately 47 per cent of the beds in mental hospitals are occupied by schizophrenic patients, whereas the same patients account for only about 25 per cent of all admissions.[2] The role that chronicity plays in the occupation of mental hospital beds is supplemented by the high rate of hospitalization among known schizophrenics. Leopold Bellak points out that in the psychiatric units in the municipal hospital system of New York City, eight out of ten schizophrenic patients admitted are subsequently committed to the hospital for intensive psychiatric treatment.[3] This is by far the highest commitment rate of any diagnostic category. Furthermore, published and unpublished data from the United States and Britain show that admissions and readmissions for schizophrenia have been steadily increasing over the last ten years.[4] Figure I shows the total number of admissions of schizophrenic patients for the years 1954-1963, and Figure II shows schizophrenic admission rates in contrast to other psychiatric illnesses at the Hospital for Mental Diseases

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[2]K. Cross, J. Harrington, and W. Mayer-Gross, "A Survey of Chronic Patients In a Mental Hospital", Journal of Mental Science, 103: 146, 1957.

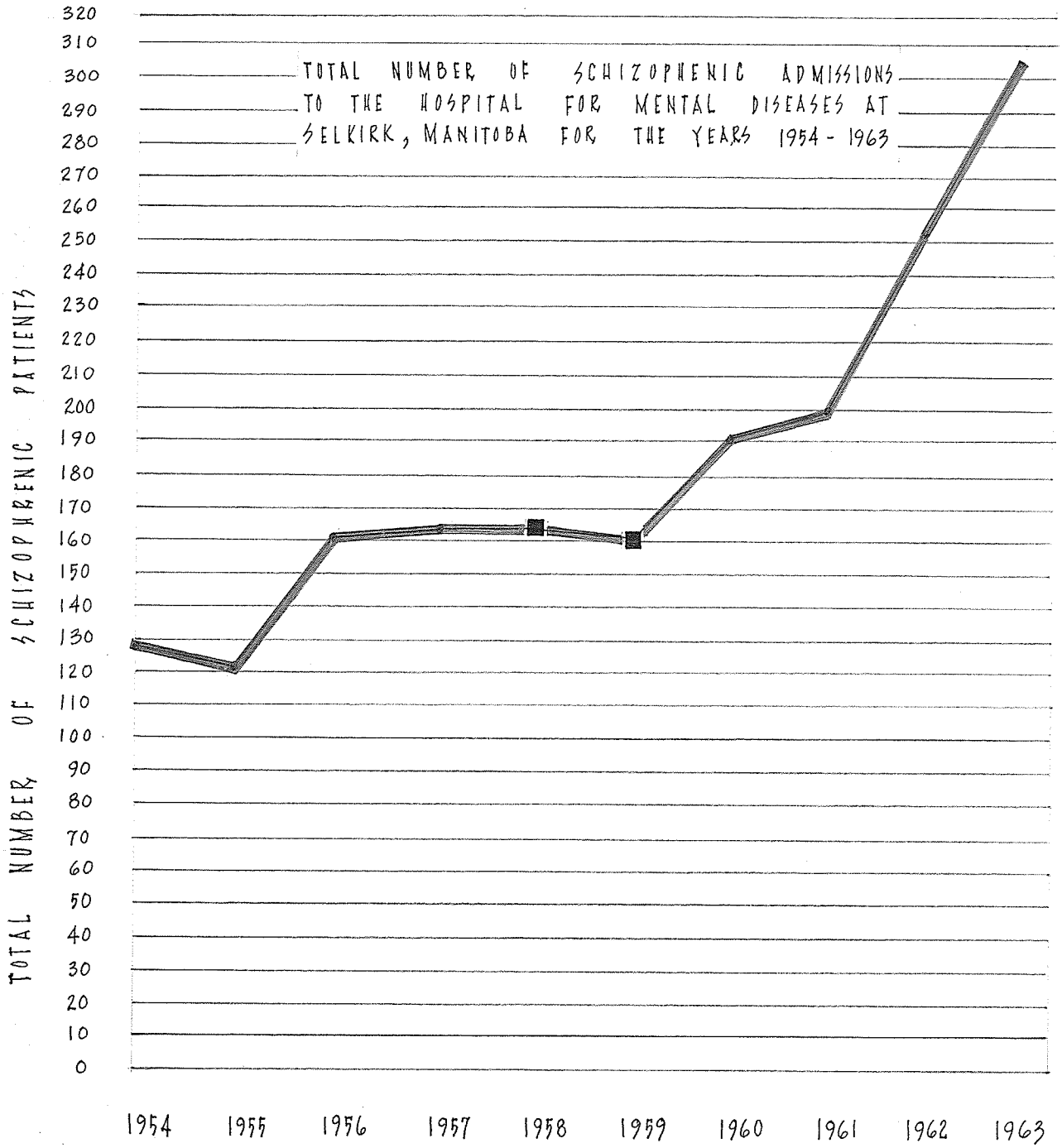
[3]Leopold Bellak, op. cit., p. 75.

[4]J. Hoenig and I. M. Crotty, "Some Aspects of the Work of a Regional Mental Hospital and of an Observation Ward", International Journal of Social Psychiatry, 3: 260, 1958.

at Selkirk, Manitoba.

Hence, the current strain being placed upon our mental hospitals by ever-increasing numbers of long-stay schizophrenic admissions, the cost of maintaining these patients in the hospital, and the desire on the part of psychiatrists for the objectification and validation of a scheme of prognosis, all accentuate the need for a full understanding of those conditions most conducive to the early and permanent discharge of these patients. Consequently, any proposal to alleviate these problems must be examined carefully and effectively if we are to cope adequately with them. It is the author's hope that this report will be a contribution to this end.

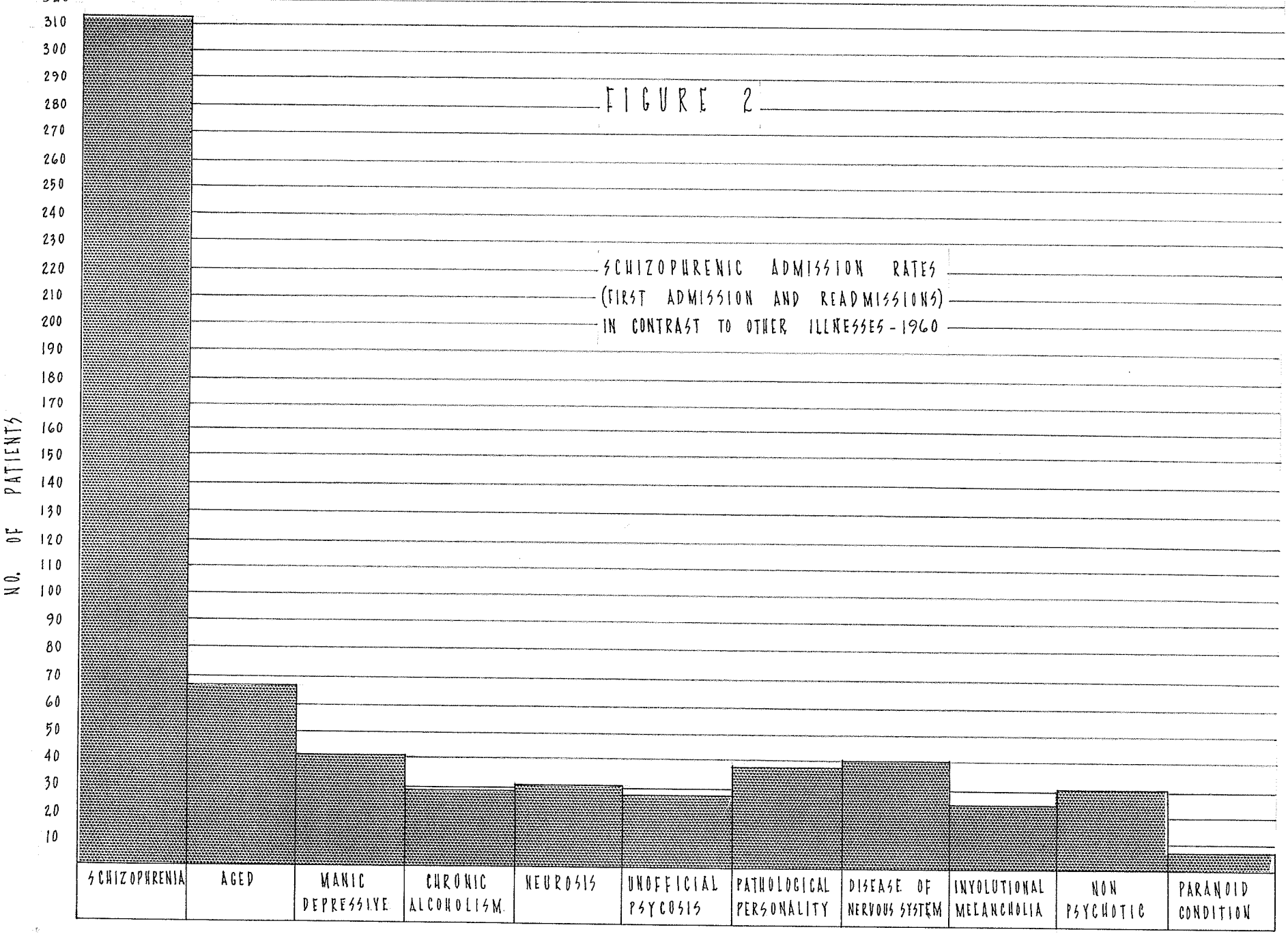
FIGURE 1



■ THIS DOES NOT REPRESENT A TRUE DECREASE. FOR MANY MONTHS THE HOSPITAL WAS FORCED TO RESTRICT ADMISSIONS DUE TO OVERCROWDING. I.E. NORMAL PATIENT POPULATION - 1005 1958 AND 1959 TOTAL POPULATION - 1243, 1231 RESPECTIVELY. (CROWDING OF 23 %)

FIGURE 2

SCHIZOPHRENIC ADMISSION RATES
(FIRST ADMISSION AND READMISSIONS)
IN CONTRAST TO OTHER ILLNESSES - 1960



CHAPTER II

THE RESEARCH PROBLEM

The Problem Area

In recent years many studies have been directed toward the discovery of factors which are related to differential outcomes of mental disease. Of these studies, some have reported on the effect of the somatic treatment therapies on schizophrenic patients in terms of the length of the treatment process.[1] Others have focused on the connection between genetic factors and the length of mental hospitalization. Similar attempts have been made to evaluate the reliability of psychiatric prognosis through the use of various psychological treatment methods, i.e. various forms of psychotherapy. Still others have reported on the association between socio-environmental factors and the length of in-hospital treatment. Apart from treatment techniques, a number of studies have reported symptomatic correlates of prognosis.[2] A sixth type of research approach has tried to relate the social structure of mental hospitals,

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[1] The somatic treatment techniques include: psychopharmacology, hypoglycemic coma, psychosurgery, and electro-convulsive therapy.

[2] See W. Malamud and Norman Render, "Course and Prognosis in Schizophrenia," American Journal of Psychiatry, 95: 1039-1051, 1939; H. W. Dunham and B. Meltzer,

and the use of treatment facilities within them, to prognosis.[3]

However, despite the fact that research studies in this area of mental disease have intensified, are highly suggestive, and have been increasingly well done, the approaches reviewed do not afford sufficient evidence for making reliable estimates of prognosis. Rather, the findings reviewed indicate that most research has been of the fact-finding variety, dealing with disparate factors such as age, sex, and similar factors which have little explanatory value in themselves, and above all, lack the benefit of a guiding theory.

The present research singles out still another aspect of prognosis. It attempts to extend to the problem of psychiatric prognosis the theoretical framework of social class -- a sociological dimension which to date, has not been intensively investigated with respect to the prognosis of the functional behavior disorders. One of the first significant research projects dealing with the relationship of social class

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"Predicting Length of Hospitalization of Mental Patients", American Journal of Psychiatry, 50: 123-129, 1946.

[3]See, for example, G. Devereux, "The Social Structure of the Hospital as a Factor in Total Therapy", American Journal of Orthopsychiatry, 19: 492-500, 1949; A. H. Stanton and M. S. Schwartz, The Mental Hospital, (New York, Library Behavior Science, 1958).

to psychiatric illness was done by A. B. Hollingshead and F. C. Redlich in 1953.[4]

One of the difficulties in using this variable in research is the fact that many people are unaware of, or deny the existence of a class-structured society. The mere mention of status levels in society often makes people uncomfortable, for it is antagonistic to the very ideals upon which our society is based. We are all trained to cherish and have implicit faith in the democratic system which teaches that every member of our society is born free and equal. People fail to realize the paradox of this democratic theme -- if people were all equally ranked in society, there would be no highs or lows, inferior or superior social positions to strive for, or move away from.[5] This is not the case in American society, where the existing social positions are differentially ranked in terms of prestige and power, and people are encouraged to strive for higher social positions. Many people, however, are unwilling to accept the hard facts of our social class

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[4]August B. Hollingshead and Frederick C. Redlich, Social Class and Mental Disease, (New York, Wiley and Sons, Inc., 1958).

[5]W. Lloyd Warner, Social Class in America, (New York, Harper and Row, Co., 1960), p. 3.

system, and believe that the concept is simply a figment of the sociologist's imagination.

Another reason why social class has not been recognized as an important variable in psychiatric research is that its use as an analytical tool has only recently come into importance. Nevertheless, current studies in Sociology have shown the usefulness and importance of this variable in investigating various aspects of the life process. Studies have shown that social class is related to wide areas of social life: it determines to a great extent the things we buy, the places we live, the organizations we belong to; it influences and to a great extent controls individual actions and decisions. Our family life and personality is largely determined by the influence of social class. Also, social class is correlated with such diverse phenomena as community power, crime rates, marriage patterns, disease, political participation, fertility rates and educational achievement.[6] As W. Lloyd Warner points out, every major aspect of American culture is directly or indirectly affected by the all pervading influence of status characteristics in our social structure.[7]

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[6]Jerome K. Myers and Bertram H. Roberts, Family and Class Dynamics in Mental Illness, (New York, Wiley and Sons, Inc., 1958), p. 5.

[7]W. Lloyd Warner, op. cit., p. 7.

An important feature of the theoretical framework of social class is the assumption that mental disorder originates in the complex social environment of which the individual is a participant. As a general rule, behavior pathology is believed to stem from predisposing social conditions such as conflicting and disorganizing cultural values, isolating interactional patterns, interpersonal conflicts, unequal distribution of life chances, and economic instability, characteristic of the social strata which make up an important and influential part of the individual's social environment.

Various designations have been used to characterize these social conditions, such as Durkheim's anomie, Jung's concept of loss of significance, and the concept of social isolation formulated in the earliest empirical study of social factors in mental disorders, by Faris and Dunham.[8]

It has been hypothesized by these theorists, and subsequently by later social class theorists, that behavior pathology is generated by the impact of these disorganizing social forces on the individual.[9] In

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[8] R. L. Faris and H. W. Dunham, Mental Disorders in Urban Areas, (Chicago, University of Chicago Press, 1939.)

[9] For example, see B. S. Rowntree, Poverty and Prognosis, (London, Longmans, Green and Co., 1941); B. Bettelheim, "Individual and Mass Behavior In Extreme Situations", Journal of Abnormal and Social Psychology. 38: 164, 1943.

such a conceptual scheme we might say that the dependent variable is the behavior pathology and the independent causitive variable is social class.

The present research attempts to approach the concept of prognosis from the standpoint of this broad theoretical framework. A fundamental assumption is that social class theory may be adopted as a logical extension of basic etiological concepts which emphasize the nature of the social environment as one source of behavior pathology. This affords a means of focusing our research on social class variables in the social environment to which an individual is oriented, and which may affect the behavior organization of the individual in ways which are related to prognosis.

Definition of Concepts

For research purposes, length of hospitalization is used as an index of prognosis. In reviewing the literature, an accepted definition of prognosis is the probable course and outcome of a disorder.[10] One component of the course of outcome of a mental disorder

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[10] See O. Kant, "Comparative Study of Recoveries and Deteriorated Schizophrenics", Journal of Mental and Nervous Disease, 93: 616-624, 1947; W. Malamud and Norman Render, op. cit., 1039-1051.

is length of hospitalization. Although the concept has certain defects as an index of ultimate outcome, it is generally regarded as an acceptable estimate of psychiatric prognosis.[11] It should be pointed out, however, that there are other ways of defining and estimating prognosis, such as rates of readmission, subjective evaluations by psychiatrists, and degree of post-hospital adjustment. These methods have not been included in the present research. This study will only concentrate on that part of psychiatric prognosis which is reflected in length of hospitalization.

Social class was defined operationally according to an index developed by Robert H. Hardt.[12] This index utilizes occupation and education to determine an individual's social class position. It is premised on the following assumptions: first, the existence of a class structured society. Second, that society attaches certain values to various occupational

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[11] C. D. Whatley, "Reference Groups and Recovery from Mental Illness," (Unpublished Ph.D. Dissertation, Tulane University, 1957). p. 126.

[12] Robert H. Hardt and Sherwin J. Feinhandler, "Social Class and Mental Hospitalization Prognosis", American Sociological Review, 24: 815, 1959.

categories. The hierarchy of value orientations range from a high evaluation of the more prestigeful professional occupations to a low evaluation of unskilled physical labor. This hierarchical ranking of occupations implies that individuals who possess similar amounts of formal education will have comparable tastes, values and behavioral patterns.[13]

It is believed that a combination of these two symbolic factors of social class positions, enables a researcher to determine approximately the relative position an individual occupies in the status structure of society.

Hence, a social class is defined in this study, as an arbitrarily defined stratum of individuals characterized by similar occupational pursuits and similar levels of education.

Related Research Literature

Perhaps one of the most vigorous and comprehensive studies utilizing the variable of social class, was the New Haven study conducted by Hollingshead and Redlich.[14] Using the status indices of education,

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[13] A. B. Hollingshead and F. C. Redlich, op. cit., p. 391.

[14] Ibid.

occupation, and ecological area of residence, their research revealed that the prevalence of treated mental illness was related significantly to an individual's position in the class structure; that the types of diagnosed psychiatric disorders were connected significantly to the patient's position in the class structure; that the kind of psychiatric treatment administered by psychiatrists was associated with the patient's position in the class structure; that social and psychodynamic factors were correlative with an individual's position in the class structure; and that mobility or the lack of mobility in the class structure was associated with the development of psychiatric difficulties. Their investigations demonstrated conclusively that many aspects of mental illness were significantly related to the class structure of American Society.

A particular outcome of the above project, however, which has direct relevance to our research area, was the investigation of the treatment process. In one phase of their inquiry it was established that an inverse relationship existed between the class status of schizophrenic patients, and the duration of in-hospital treatment. Hollingshead reported that among psychotics in general, schizophrenics in particular,

the lower the social class level, the higher the incidence of patients undergoing long-term hospitalization.

Other studies have reported on the relationship between a patient's social class position and the length of hospital stay. A preliminary report from Britain revealed a high correlation between the duration of initial hospitalization, and the occupational level of schizophrenic patients.[15] Similarly, Robert H. Hardt, in the United States, found a relationship between the length of hospitalization and the patient's educational and occupational status.[16] Dunham uncovered a similar association between length of hospitalization and the patient's occupational and educational status.[17] On the other hand, evidence negating the hypothesis that we are discussing, comes from C. D. Whatley, who found no relationship between social class factors and length of hospitalization.[18] In addition, a recent

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[15]Eileen M. Brooke, A National Study of Schizophrenic Patients in Relation to Occupation (London: General Registrar's Office, Medical Statistical Branch, 1958), p. 8.

[16]Robert H. Hardt and Sherwin J. Feinhandler, op. cit., p. 815.

[17]H. Warren Dunham and Bernard N. Meltzer, op. cit., p. 126.

[18]C. D. Whatley, op. cit., p. 127.

Canadian study revealed no relationship between hospital duration and such indicators of social class as education and occupation.[19] Similarly, a recent British study revealed no direct relationship between the social class level of schizophrenic patients and duration of hospitalization.[20]

On the basis of our review of the current literature, our cited findings demonstrate the lack of agreement as to the implication of social class factors serving as criteria for the prognostication of prolonged behavior pathology. It seems clear that a disagreement does exist in this area of mental hospital prognosis, and this in part, is why the present study was undertaken.

Implications of the Study

It will be the purpose of the present research project to investigate this relationship to ascertain whether or not such an association persists in a Manitoba setting like that in New Haven and other places. The specific focus of this research project

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[19] J. M. Wanklin, Carol Buck, D. F. Fleming, G. E. Hobbs, "Discharge and Readmission Among Mental Hospital Patients", A.M.A. Archives of Neurology and Psychiatry, 76: 664-665, December, 1956.

[20] Aaron S. Mason, et. al., "Discharge From a Mental Hospital in Relation to Social Class and Other Variables", A.M.A. Archives of General Psychiatry, 2: 11-16, 1960.

will be to examine the hypothesis, that the higher the social class position of schizophrenic patients, the lower will be the proportion of them experiencing long-term hospitalization.

If the findings of our research project support our hypothesis, it would seem feasible to make actuarial predictions of hospital discharge probabilities on the basis of relatively objective social characteristics. This knowledge would increase the reliability of prognosis for the individual case. Secondly, patients could be selected for either the chronic or acute wards of the hospital so that appropriate therapy could be administered immediately. Thirdly, the appropriation of funds by hospital administrators would be facilitated by a knowledge of discharge probabilities, for the individual case. Before the latter can be realized, however, this investigation must first of all demonstrate whether or not a relationship does exist between social class factors and length of hospitalization.

In the following chapter, it is the author's intention to elaborate on the details of the research techniques, and the methodological procedures followed in the accumulation and analysis of the data.

CHAPTER III

METHODOLOGICAL PROCEDURES

Introduction

In the past few years, many studies have used information from case records in an attempt to find prognostic criteria. At present, this approach continues to be popular and has indeed, resulted in several generally accepted and repeatedly found prognostic criteria.[1] It is the contention of the author however, that the methodology usually employed in the great majority of these studies did not make maximum use of the data and, in addition, tended to obscure, rather than define, the relationships which may have existed between the independent variables and the length of the treatment process.[2] It is our contention, that a much closer notion of the relationship between duration of illness and length of hospital stay can be obtained, if all the independent variables known to affect outcome are held constant while the duration is varied.

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[1] G. R. Pascal and C. H. Swensen, "Prognostic Criteria in the Case Histories of Hospitalized Mental Patients", Journal of Consulting Psychology, 17: 163, 1953.

[2] In the course of planning the present research study, over eighty published papers were read which attempted to find prognostic criteria from case records. In a majority of studies there was a distressing dearth of definitive studies which utilized the controlled case-study method.

The present research report attempts a controlled study of prognostic criteria obtained from case-record material.

Since it is impossible to gauge accurately the worth of a single indicator without attempting first to control other possible contributing factors, it was the purpose of our research design to determine whether or not social class position is of any prognostic worth, in itself, when all of the other variables have been controlled. The variables used in the study represent a compromise between those factors deemed important from a consideration of evidence in the literature, and the practical job of abstracting reasonably reliable information from the hospital records. These variables have been classified into two types, the social status variables and the clinical variables. Under the former are included, age on admission, marital status, religion, ethnic background, form of admission, and environment. The clinical variables are diagnostic sub-type, family history of mental disease, and number of previous admissions.

Control Variables

Patients who are labelled schizophrenic are far from a homogeneous group in their clinical manifestations. Certain specific clinical characteristics

have previously been reported to be associated with differential outcomes.[3] If these clinical factors are concentrated disproportionately in different social classes, the relationship which would seem to exist between social class and duration would be spurious.

Other important variables such as age on admission and admission procedures might be causally related to the discharge process. A survey of the available and relevant literature indicated that some prognostic worth was attributed to age.[4] An initial survey at the exploratory stage of this research revealed differences in the age distribution of various social classes. Hence, since chronological age tends to be positively associated with length of hospitalization, it was the purpose of this research to ascertain the degree of correlation, if any, which exists between the age

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[3]See, for example, D. Blair, "Prognosis in Schizophrenia", Journal of Mental Science, 86: 378, 1940; Joseph Zubin, E. I. Burdock, Samuel Sutton, and Francis Cheek, "Epidemiological Aspects of Prognosis in Mental Illness", cited in American Sociological Review, 24: 817, 1959; E. Bleuler, "The Physiogenic and Psychogenic in Schizophrenia", American Journal of Psychiatry, 10: 203, 1930.

[4]See, for example, E. Guttman, W. Mayer-Gross and E. T. Slater, "Short Distance Prognosis of Schizophrenia", Journal of Neurology and Psychiatry, 2: 25, 1939; R. H. Israel and N. A. Johnson, "Discharge and Readmissions of Schizophrenics, "American Journal of Psychiatry, 112: 903, 1955; W. Malamud and N. Render, op. cit., p. 1039.

differences in class compositions and duration of stay. A similar analysis will be conducted controlling for various admission procedures. Patients certified to the hospital by various methods, i.e. Court Certificates, Voluntary Committal, may vary markedly in discharge rates.[5]

The linkage between social class and length of hospitalization might be accounted for by environmental differentials. Patients coming from either rural or urban areas might differ markedly in their discharge rates. In this analysis, places having a population of 2500 or more will be considered as "urban". All other places will be considered as "rural".[6] This figure of 2500 is the United States criterion for a community being urban. In spite of the fact that in Canada the figure is 1000, this study used the American figure because it was considered more appropriate for this research, and more important, this figure was used by the hospital classification office where our data were collected.

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[5]Arthur Harris, "Changes in Duration of Stay of Mental Patients Suffering from Functional Psychoses During the Past 20 Years", Journal of Mental Science, 100: 727-731, 1954.

[6]National Committee for Mental Hygiene, Statistical Manual for the Use in Hospitals for Mental Disease, (Utica: State Hospital Press, 1945) p. 55.

Number of previous admissions has also been shown to be correlated with length of hospital stay.[7] Similarly, the studies reviewed indicate a positive relationship between the hereditary background of the patient and duration of mental hospitalization.[8] The heredity of the patient population was also examined in the present study. In this analysis, a distinction was made between heredity data of the direct and collateral lines. The following is a list of conditions which was recorded as indicative of a family history of mental illness:

1. paranoid condition
2. schizophrenia
3. manic-depressive psychosis
4. reactive psychoses
5. organic brain damage
6. feeblemindedness
7. alcoholism

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[7] R. G. Fuller, "Expectation of Hospital Life and Outcome for Mental Patients on First Admission", Psychiatric Quarterly, 4: 295, 1930.

[8] R. C. Hunt and K. E. Appel, "Prognosis in the Psychoses Lying Midway Between Schizophrenia and Manic-Depressive Psychoses", American Journal of Psychiatry, 93: 313, 1936.

8. atypical or mixed manic-depressive

9. psychoses without further information available.

10. "nervousness"*

Also, present research studies indicate the prognostic worth of the marital status of the patient,[9] and ethnic background.[10]

Since definite support for the prognostic worth of these variables has been claimed by the various studies mentioned, it was the purpose of this research project to investigate the relationship between these variables, and the length of hospitalization of schizophrenic patients in our sample population.

Determination of Social Class Status - The Independant Variable

The scale used in this study was developed by

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*The vague term "nervousness" was used for those cases in which remarkable nervous and neurotic features or abnormal personality traits were mentioned.

[9]V. Norris, "A Statistical Study of the Influence of Marriage on the Hospital Care of the Mentally Sick", Journal of Mental Science, 102: 467, 1956.

[10]O. Odegaard, "Emigration and Mental Health", Mental Hygiene, 20: 533-546, 1936.

Robert H. Hardt[11], who utilized occupation and education to determine an individual's social class position. This scale is a modification of the two factor index developed by A. B. Hollingshead.[12] The essential difference between the Hollingshead index and the one used, is that the first two occupational and educational categories in the Hardt scale were each grouped into one major grouping. Also, each factor in the Hollingshead index was scaled and assigned a weight determined by a standard regression equation. The combined scores grouped themselves into five clusters (social strata or levels), and to each of these a numerical index or scale value was assigned. The factors in the Hardt scale were not weighted, but were simply assigned a scale value ranging from zero to five to correspond to the five possible positions in both the occupational and educational scales.

Since this research has attempted a partial replication of Hollingshead's study, the reader may question why Hollingshead's Index of Social Position

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[11]Robert H. Hardt and Sherwin J. Feinhandler, op. cit., p. 815.

[12]A. B. Hollingshead, op. cit., p. 393.

was not used in the present research. The rationale for not using the Index is based on three considerations:

First, if Hollingshead's Index were used, we would have to assume that the factor weights, obtained by the regression analysis in the New Haven Community, were applicable to a Manitoba setting. In other words, we would be forced to accept the assumption that the social differences found in New Haven would be the same in Manitoba. To avoid this assumption, the present research would have had to determine the appropriate weights for each factor. To avoid the involved statistical analysis in ascertaining the factor weights, it was the author's decision to select the Hardt scale which was considered a worthwhile simplification. The author recognizes however, that by using a non-weighted scale, sensitivity is sacrificed for operational ease.

Secondly, the author felt that a more useful check of Hollingshead's results could be obtained by approaching the problem with a somewhat different methodology. For example, if this study corroborated Hollingshead's findings, it would then seem to indicate that the validity of the relationship between social class and length of hospital stay had been confirmed.

Without further discussion on the rationale for using the Hardt scale or on the difference

between the Hollingshead index and the one used, we will proceed to characterize the six occupational and educational positions which are used in our scale.

Occupational Scale:

1. Executives and proprietors of large concerns, major professionals, managers and proprietors of medium-sized businesses and lesser professionals.

2. Clerical, sales, owners of small businesses, and semi-professionals.

3. Craftsmen, foremen and kindred workers.

4. Operatives and kindred workers.

5. Service workers.

6. Laborers.

Educational Scale:

The educational scale was divided into six categories:

1. College Education. (This includes those individuals who possess post-graduate, graduate degrees, or who have completed at least one year of college education).

2. High School Graduates. (All high school graduates whether from a private, public, trade or parochial high school.)

3. Partial High School. (Individuals who have completed either grade nine, ten, or eleven.)

4. Junior High School. (Individuals who have completed grade eight education.

5. Partial Junior High School. (Individuals who have completed grade seven education.

6. Elementary School. (Individuals who have not completed grade seven education will be given the same score irrespective of the lower grades completed.)

An example of the computing Index is presented in Table I.

TABLE I

SOCIAL CLASS COMPUTING INDEX

Scale Values	Occupation	Education
5	Prof., Mgrs., Officials, Prop.	College
4	Clerical, Sales	12th grade
3	Craftsmen, Foremen	9-11 grades
2	Operatives	8th grade
1	Service Workers	7th grade
0	Laborers	7- (below)
*	Unknown	

*For this group, class scores will consist of double the education weight. This group will consist of those with occupation unknown, those with no occupation, and students.

To obtain a class status score for a patient one must know his occupation and the number of years of school completed.[13] Scale values ranging from 0-5 are assigned to the occupational and educational scale positions. A social class Index rating for each patient was obtained by adding the two scale scores together. The resultant of which is taken as an index of the individual's social class position. For example, Harry Smith is an office machine operator; he has completed the 12th grade. His Index of Social Position (I.S.P.) was computed as follows:

	Scale Values
Occupation	4
Education	4
I.S.P.	8

When the Index of Social Position was calculated, the individual was then stratified into one major social class grouping. The I.S.P.--Class Position equivalents are:

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[13] In the case where either the education or occupation values are unknown, the Index of Status Position is determined by doubling the known scale value. The rationale for doing this is due to the high correlation which exists between the two scales. See Robert H. Hardt and Sherwin J. Feinhandler, "Social Class and Mental Hospitalization Prognosis", American Sociological Review, (December, 1959), p. 817.

Class	I.S.P.
I	9-10
II	7- 8
III	5- 6
IV	3- 4
V	1- 2
VI	0

Hence, Harry Smith should be rated Class II on the basis of his occupational and educational scores. In this study social class, as in the Hardt Study, will refer to an "arbitrarily defined stratum of individuals whose Index scores are relatively the same."[14]

Description of Sample

In order to test our hypothesis a study population was selected meeting the following criteria:

1. Schizophrenic male patients, free from known cortical damage, serious chronic incapacitating somatic illness, and mental deficiency.

2. First admitted to the Hospital for Mental Diseases at Selkirk, Manitoba, between the years 1956 and 1961.

3. Schizophrenia diagnosis based on the International classification of mental disorders.

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[14]Ibid., p. 817.

In reviewing some of the case histories during the exploratory stage of the research, it was found that many female patients were not employed at the time of admission. Since no occupational record was registered in most cases, the present study was limited exclusively to males, where in the majority of cases occupational status could be ascertained.

Also, a survey of the case histories revealed a drastic change in therapy prior to 1954.[15] It was therefore decided to delimit the range of our inquiry to the years 1956-1961 inclusive, to exclude the possibility of a spurious relationship evolving from therapeutic differentials.

The diagnostic classification used in this study was based on the nomenclature approved by the International Classification of Mental Disorders.[16] This nosological system recognizes seven schizophrenic reactions:

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[15]The introduction of the newly discovered phenothiazines which play a remarkable role in the treatment of schizophrenic disorders, were not extensively used prior to 1955. They were put into extensive use at the hospital in the late nineteen fifties.

[16]E. Stengel, "Classification of Mental Disorders," World Health Organization, 21: 601-663, 1960.

Simple, Hebephrenic, Catatonic, Paranoid, Schizo-Affective, Unspecified, Residual or Latent, and Acute Schizophrenic Reaction.[17]

Patients who were not discharged by the hospital within the first twenty-four months following their initial hospitalization were referred to as "long-term patients" in this study. Patients who were released alive within this period will be classified as "short-term patients". These definitions involve a discharge from the care and responsibility of the hospital; the period of duration will include both the time spent in the hospital and in the supervised convalesing period, since the Selkirk Mental Hospital has an intensive after-care program in which patients are discharged conditionally as a part of their re-orientation treatment.[18] It should be pointed out that, by "duration of hospitalization" is meant total number of months spent in residence

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[17]The Latent and Acute Schizophrenic sub-types were not investigated in the present research, since the total number of cases in both sub-types (13), was too small for an adequate statistical analysis.

[18]It should be noted that, in using the criterion "length of hospitalization", we are not intending to imply that all patients who leave hospital have effected the same rate of recovery. Patients are often released, when in the opinion of the psychiatrist, they are able to function reasonably well in the community, without harm to themselves or other people.

in the hospital, whether this period be one of consecutive residence or the sum of several different periods of residence.

The decision to select twenty-four months as the cutting point was influenced by the findings of other studies. Research at the Warren State[19] and Ontario[20] Hospitals disclosed that the patients' experience in the first two years of hospitalization appeared particularly crucial, and the immobility of patients during the two years following admission is one of the better prognostic indications of eventual outcome.[21]

In addition, marked differences in discharge probabilities at the end of two years were reported by these studies. The Warren State and Ontario Hospital studies reported that 38 per cent of the total population had been hospitalized for two years following first

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[19] Morton Kramer, et. al., A Historical Study of the Disposition of First Admissions to a State Mental Hospital, Public Health Monograph No. 32 (Washington: U.S. Government Printing Office, 1955.)

[20] J. M. Wanklin, et. al., "Discharge and Readmission Among Mental Hospital Patients", A.M.A. Archives of Neurology and Psychiatry, 75: 664-665, 1956.

[21] The term "immobility" is used here in a strictly medical sense, i.e. a progressive deterioration of a patient's personality structure to a point where he becomes less responsive to therapy.

admission. A survey of the case histories at the Selkirk Mental Hospital between the years 1956-1961, indicated that 43 per cent of the male schizophrenic population fitted our definition of long-term patients. Similar results have been reported by Kramer[22], Carstairs[23], Hoenig and Crotty[24], and Cross.[25] There is, therefore, definite support for the use of a minimum stay of two years as a definition of chronicity. Two years has been repeatedly shown to be the time at which the majority of patients have been discharged from the hospital.

The study population, defined in terms of the above criteria and with minor exclusions[26], consisted of 455 patients.

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[22]M. Kramer, "Long Range Studies of Mental Hospital Patients, an Important Area for Research in Chronic Diseases", Milbank Memorial Fund Quarterly, 31: 253, 1953.

[23]G. M. Carstairs, W. L. Tonge, N. O'Connor and L. Barber, "Changing Population of Mental Hospitals", British Journal of Preventive Social Medicine, 9: 187, 1955.

[24]J. Hoenig and I. M. Crotty, op. cit., p. 260.

[25]K. Cross, "Survey of Mental Hospitals and Mental Deficiency Institutions in Birmingham Region", British Journal of Preventive Social Medicine, 8: 29, 1954.

[26]There were five patients who died prior to a stay of twenty-four months and were not included in either of the duration groups or in the final analysis. One patient, whose occupation and education could not be ascertained, was also excluded from the sample population.

The Patient Schedule

In order to obtain comparable data on each patient, a schedule form was developed. This schedule was constructed in such a manner that the information could be transferred to International Business Machine cards. Each column was divided into sub-categories which were numbered to correspond with the columns of the I.B.M. card. The data for each schedule were abstracted from the patient's clinical record kept in the Records Office of the hospital. After a thorough reading of the records, the information was transferred to the schedules by circling the number of the applicable sub-category. The information was then checked for consistency, and discrepancies were reconciled, by referring to the more detailed records of the patient kept in the departmental files of the Records Office. The information gathered on each patient was as follows: Name, Occupation, Education, Total duration of hospitalization, Age, Marital status, Ethnic background, Form of admission, Diagnostic sub-type, Environment (rural-urban), Number of previous admissions, and Religion. An example of the schedule used is given in Appendix E.

Data Processing

The information gathered on the schedule forms was coded and punched on I.B.M. cards for processing on International Business Machines. The schedules were not coded until each one had been checked to ensure that all information had been recorded; that the information recorded was correct; and that the number of schedules corresponded to the number in the sample population. The information on the schedules was then coded, and each schedule was coded with an identifying number. This was done so that during any phase in the analysis, the investigator could return to a schedule to check on a punch mark in a card. After coding was completed, and the numbers punched on I.B.M. cards, the cards were verified against the schedules. When all of these operations were completed the investigator was in a position to analyze the items which had been punched on the cards.

The Use of Statistical Techniques

Throughout this study we were mainly concerned with testing the hypothesis on the relationship between the class status of patients and their total duration of hospitalization. We were interested in obtaining an indication of the relative importance of the ten independent variables, by relating the dependent variable

to each of them in turn. For this, and in all other tests, we have employed the method of Chi-square analysis.

The results of the first analysis indicated that six of the ten variables, considered separately, were related to length of hospital stay. A subsequent analysis, however, was executed to ascertain whether this relationship between the six independent variables and length of stay, was a direct one. The results of this further analysis indicated that the six variables -- which initially were found to be related to the criterion, were themselves interrelated to a significant degree. This lack of independence naturally raised the possibility that the initial findings were confounded by the influence of the other interrelated variables. Hence, an additional analysis was performed in which one variable was studied in relation to length of stay, while one of the other interrelated variables was held constant. Similarly, separate analyses were conducted controlling for the effects of each of the remaining interrelated variables.

It should be pointed out that during the early stages of the analyses, the author tried to control simultaneously for the effects of all the interrelated variables. During this early phase of the analysis, however, it was found that the sample population

was too small for an adequate breakdown of the variables, which was necessary if all variables were to be controlled at the same time. Nearly one-half of all the cells in the tables were deficient, which made an adequate analysis impossible. Hence, to provide a sample large enough to analyse, it was necessary to study the effects of each variable, in relation to the criterion, controlling for only one of the interrelated variables at a time. Subsequent analysis of the same variable were conducted controlling for each of the remaining variables.

Throughout the analysis, the one per cent probability level was used as the minimum for the determination of significance. This means, in effect, that there was less than one chance in one hundred that the results obtained could be due to chance variation.

Summary of Methodological Procedures

In this study the methodological procedures pertinent to the analysis of our working hypothesis have been outlined. We have delineated the crucial social and clinical factors which were controlled in the analysis. We have shown how the Index of Social Position was used in placing patients in the class structure, and have illustrated the procedures with an example. We have also shown the procedures necessary for the

gathering of data, and the way in which this information was represented on a schedule form. We have presented the size and nature of the study population; the procedures taken for data processing; and finally, the statistical technique used to test our hypothesis was outlined.

The next chapter will present the results of our analysis.

CHAPTER IV

RESULTS AND RELATED DISCUSSION

Relationships Between Length of Stay and Independent Variables

The relationship of each of the ten independent variables to the length of hospital stay was analyzed by means of the chi-square test. The results of these tests are summarized in Table II.

TABLE II

CHI-SQUARE RELATIONSHIP BETWEEN LENGTH OF STAY AND INDEPENDENT VARIABLES

Variable		P	D/F
1.	Social Class	$< .01$	5
2.	Number of previous admissions	$> .01$	7
3.	Age on admission	$< .01$	3
4.	Diagnostic sub-type	$< .01$	5
5.	Marital Status	$< .01$	5
6.	Religion	$> .01$	4
7.	Ethnic background	$> .01$	4
8.	Form of admission	$< .01$	1
9.	Family history of mental disease	$> .01$	5
10.	Environment	$< .01$	1

Table II shows that of the ten variables, four seem to be unrelated to length of stay, the criterion being a probability greater than .01 of chance association. Six variables were found to be related to length of stay at the .01 level of confidence. These variables were:

1. Social Class
2. Age on Admission
3. Diagnostic Sub-Type
4. Marital Status
5. Form of Admission
6. Environment

A brief discussion of the direction of the relationship between these significant variables and length of stay will be presented here. In the interest of readability, the tables used in these tests of relationship were placed in Appendix B.

1. Social Class: There was a significant association between the length of time a patient remained in the hospital before being discharged and his social class status. The greatest discrepancy between discharge rates appeared between Class II and Class VI. While 92 per cent of Class II patients were discharged within two years, only 24 per cent of Class VI patients were discharged in that period of time. In effect, the

higher the social class of the patient, the shorter was his stay.

2. Marital Status: The relationship between marital status and length of stay was also found to be significant. Whereas more than 63 per cent of the married patients (legally married and common-law) left the hospital within two years of admission, only 48 per cent of the unmarried patients (single, widowed and divorced) were discharged in that period of time. More than three times as many unmarried patients as compared to the married ones, had a length of stay over two years. In other words, married patients stayed in hospital for shorter periods than unmarried patients.

3. Diagnostic Sub-Type: An association was obtained between diagnostic sub-type and length of hospital stay before discharge. More than 58 per cent of all paranoids, 64 per cent of all schizo-affectives, and 53 per cent of all unspecified patients, left within the two year interval. Whereas only 20 per cent of all hebephrenics, 35 per cent of all simple schizophrenics, and 41 per cent of all catatonic patients were discharged in that period of time.

4. Form of Admission: A fourth relationship was found between form of admission and length of hospital stay. While 55 per cent of those patients who entered hospital under a court certificate were discharged

within the two year period, 46 per cent of all voluntary admissions were discharged in that length of time.

5. Environment: The relationship between the patient's environment and his duration of hospital stay was also found to be significant. The results obtained indicated that only 42 per cent of those patients coming from a rural environment were discharged before two years. In contrast, nearly 60 per cent of the urban patients were discharged within the two year period. That is, urban patients had shorter hospitalizations than rural patients.

6. Age on Admission: Finally, the relationship between the age of the patient on admission and length of stay was also found to be significant. Results show that patients hospitalized in their thirties and forties were more likely to be discharged earlier than people hospitalized in their fifties. Particularly after the age of sixty-nine, release before two years was very unlikely.

It should be pointed out, that in our sample, there were no patients between the ages of eight and fourteen. This low percentage of children in contact with a psychiatrist in a major mental institution is explainable. This low percentage may relate among other contributing factors, (1) to a comparatively low number of private practitioners of psychiatry, and possibly to

an even lower number who work exclusively with children, (2) to the number of psychiatric disorders which are presently being treated by family doctors, pediatricians, social welfare agencies, and child guidance clinics, (3) to the unwillingness among parents to support intensive long-term psychiatric treatment, and (4) to a lack of appropriate facilities within the mental institution to treat children and adolescents adequately and effectively.

Analysis of Interrelationships Between Significant Independent Variables

The results described thus far indicate that social class, marital status, diagnostic sub-type, environment, age, and form of admission, considered separately, were all related to length of hospital stay at the .01 level of confidence. However, any conclusion that the relationship between each of them and length of stay is a direct one, depends upon establishing that these six variables were independent of one another in this sample.

In the following analysis, each of the significant variables, in turn, were studied in relation to each of the remaining five significant variables to test the possibility of interdependence. Table III summarizes the statistical analyses of these inter-relationships.

TABLE III

INTERRELATIONSHIPS BETWEEN SIGNIFICANT VARIABLES WITH PROBABILITY VALUES*

	Marital Status	Diagnostic Sub-type	Form of Admis.	Env.	Age
Social Class	*37.70* P<.01*	*51.18* P<.01*	4.58 P>.01	*32.66* P<.01*	*90.35* P<.01*
Marital Status		*120.54* P<.01*	*16.44* P<.01*	4.16 P>.01	*162.05* P<.01*
Diagnostic Sub-type			*41.87* P<.01*	7.75 P>.01	*177.00* P<.01*
Form of Admission				4.61 P>.01	11.15 P>.01
Environment					*21.64* P<.01*

*Italicized values indicate significant relationships with probability values less than .01; other P values are also shown.

A brief discussion of the direction of the relationship between each pair of the six variables will be presented here. The tables representing these analyses may be found in Appendix C.

1. Pairs including Social Class: A significant association was found between social class and environment. Class I had a lower proportion of rural patients than any other social class. While more than 72 per cent of Class I through Class III patients were urban, 40 per cent of Class V fell into this category.

The relationship of social class to the incidence of patients in the six types of diagnostic categories was also found to be significant. The incidence of the diagnostic sub-types, with the exception of the schizo-affective, were inversely related to social class position. In general, the lower the social class, the larger the proportion of patients with simple, hebephrenic, paranoid, catatonic, and unspecified schizophrenic disorders. Schizo-effective diagnosis, however, was related directly to class position: In general, the higher the social class, the larger the proportion of patients with schizo-affective reactions.

A significant association was found between

social class and marital status. Class VI had a higher proportion of unmarried patients than any other social class. While 40 per cent of Class I through Class III patients were unmarried, 60 per cent of Class IV through Class VI fell into this category. In general, the lower the social class the greater the proportion of unmarried patients.

Finally, a significant relationship was obtained between social class and the age of the patient. In our sample population, an inverse relationship existed between the various age groups and social class position: In general, the lower the social class, the larger the proportion of patients in all age groups.

No relationship was found between social class and form of admission.

2. Pairs including diagnostic sub-type: A significant relationship was found between the six diagnostic sub-types and marital status. In each of the catatonic, unspecified and simple diagnostic groups, well over 80 per cent of the patients were unmarried. In the schizo-affective, paranoid, and simple diagnostic categories, well over half of the patients were unmarried.

The relationship between diagnostic sub-type and form of admission was also found to be significant.

In each of the unspecified and catatonic diagnostic groups, nearly three-quarters of the patients were committed to hospital by a court certificate. In the hebephrenic category, over 80 per cent of the patients were similarly committed. In the simple and hebephrenic categories 65 per cent, and in the schizo-affective group, 52 per cent entered hospital voluntarily.

Finally, a significant relationship was found between diagnosis and age of the patient on admission. In the paranoid category, 58 per cent of the patients were between the ages of thirty and forty-nine. Well over half of the catatonic, schizo-affective, and nearly two-thirds of the unspecified patients were between the age groups ten to twenty-nine. In general, with the exception of the paranoid patients, the younger the age group the larger the proportion of patients with schizo-affective, catatonic and unspecified disorders.

No relationship was found between diagnostic subtype and environment.

3. Pairs including marital status: A significant relationship was obtained between marital status and age on admission. As could be expected 55 per cent of all married patients were between the ages of thirty to forty-nine, and over 57 per cent of the unmarried

patients were in the fifteen to twenty-nine age category.

A significant relationship was obtained between marital status and form of admission. While only 27 per cent of the unmarried patients (single, widowed, divorced) came to the hospital voluntarily, 40 per cent of the married patients (married, common-law) were voluntary patients. No relationship was found between marital status and environment.

4. Pairs including age on admission: A significant association was obtained between the age of schizophrenic patients and their environment. In our population, the highest percentage of schizophrenic patients came from an urban environment and were between the ages of fifteen and twenty-nine.

No relationship was obtained between the age of the patient and form of admission.

5. Pairs including form of admission: No relationship was obtained between form of admission and environment.

Relationship Between Length of Stay and Background Variables Controlling For Interrelated Variables.

It is clear from the preceding analyses that the six major variables -- social class, age on admission, diagnosis, marital status, form of admission

and environment, which initially were found to be related to length of stay, were themselves interrelated to a statistically significant degree. This lack of independence raised the possibility that some of the initial results were confounded by the influence of the other interrelated variables. Hence, additional analyses were performed, in which the effects of each variable was studied in relation to the criterion, controlling for only one of the interrelated variables at a time. Subsequent analyses of the same variable were conducted controlling for each of the remaining variables.

In the foregoing analyses of the relationship of social class to length of stay, the largest difference in rapidity of discharge was found between the upper classes (Class I, II, and III) and the lower classes (Classes IV, V, and VI). Therefore, these two most discrepant groups, henceforth called Class A and Class B respectively, were used in all subsequent analyses in order to provide as clear-cut a contrast as possible in relation to length of hospital stay.

Social Class: Social Class was investigated with respect to length of stay, holding constant in separate analyses, the interrelated variables of

diagnostic sub-type, age, marital status and environment, which variables were found to be interrelated with social class (pp. 43-46).

In the first analysis, marital status was controlled. As indicated in Table IV, two tests were performed, employing the two possible combinations of class and marital status. The results show that a lower class position was indicative of a longer period of hospitalization, irrespective of marital status.

TABLE IV

COMPARISON OF CLASS A VS. CLASS B PATIENTS ON LENGTH OF STAY WITH MARITAL STATUS HELD CONSTANT*

	Marital Status				
Social Class	Married		Unmarried		Total
	L.	S.	L.	S.	
A	10	57	31	101	199
B	35	23	141	57	256
TOTAL	45	80	172	158	455
	$X^2 = 27.83$ $P = <.01$		$X^2 = 72.29$ $P = <.01$		

*In this, and in all subsequent analyses, L and S will refer to Long-term and Short-term patients respectively.

Social class was again investigated with respect to length of stay, holding age constant. As

before, all possible combinations of age and social class were analyzed. The groups studied and the results obtained are shown in Table V. For patients in any of the age categories, the variable of social class proved to be related to length of hospital stay. In general, the lower the social class level of the patient, the longer his duration of hospitalization.

TABLE V

COMPARISON OF CLASS A VS. CLASS B PATIENTS ON LENGTH OF STAY WITH AGE ON ADMISSION HELD CONSTANT*

	Age on Admission						
Social Class	10 - 29		30 - 49		50 - 69		Total
	L.	S.	L.	S.	L.	S.	
A	33	76	13	69	3	13	207
B	67	36	74	38	23	6	244
TOTAL	100	112	87	107	26	19	451
X^2 =	25.69		48.26		15.50		
P =	<.01		<.01		<.01		

*The four patients in the age category seventy to eighty-nine were excluded in this, and all subsequent analyses, since the number is too small to analyze statistically.

Social Class was then studied in relation to length of stay, holding environment constant. This relationship is presented in Table VI. It may be

observed, that within each category, the general relationship between the social class level of the patient and rate of long-term hospitalization persists. In general, the lower the social class, the larger the proportion of patients experiencing long-term hospitalization.

TABLE VI

COMPARISON OF CLASS A VS. CLASS B PATIENTS ON LENGTH OF STAY WITH ENVIRONMENT HELD CONSTANT.

Social Class	Environment				Total
	Urban		Rural		
	L.	S.	L.	S.	
A	32	114	22	31	199
B	81	48	82	45	256
TOTAL	113	162	104	76	455
X^2 =	47.26		8.14		
P =	<.01		<.01		

Final analyses investigated the relationship between social class and duration of hospital stay within each of the six diagnostic sub-types. It may be observed from Table VII that within each diagnostic category, with the exception of the simple and hebephrenic categories, the relationship between social class level and rate of long-term hospitalization

TABLE VII

COMPARISON OF CLASS A VS. CLASS B PATIENTS ON LENGTH OF STAY WITH DIAGNOSTIC SUB-TYPE HELD CONSTANT

Social Class	Diagnostic Sub-Type: Simple		Heb.		Paranoid		Catatonic		Schizo-aff.		Unspec.	
	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.
A	3	5	3	2	19	68	7	9	1	27	21	42
B	10	2	13	2	51	29	22	11	15	1	52	40
TOTAL	13	7	16	4	70	97	29	20	16	28	73	82
X^2 =	4.43		1.66		28.50		8.69		35.78		8.06	
P =	$>.01$		$>.01$		$<.01$		$<.01$		$<.01$		$<.01$	

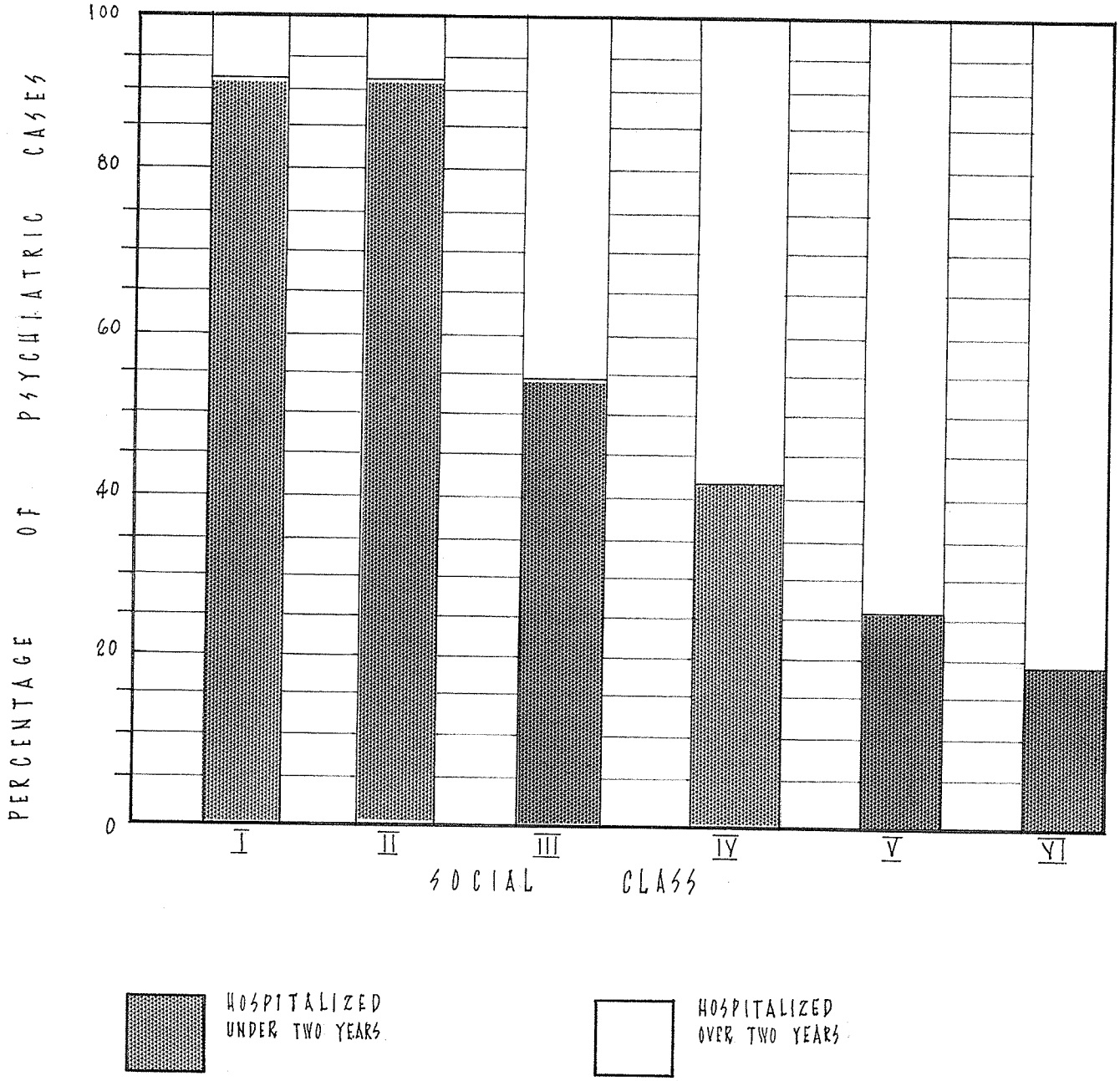
persists. In the simple and hebephrenic diagnostic categories, however, the results may be questioned on the grounds of insufficient cell frequencies. It may be observed that in each of these two diagnostic groups, five of the eight cells were below five, making the reliability of this and all subsequent analyses involving these two diagnostic groups questionable.

The results above seem to indicate that social class position was directly related to length of hospital care. The major hypothesis, that higher social class standing is a favorable prognostic sign and lower class standing an unfavorable sign, is clearly supported in this study. This correlation appeared to be affected little by the introduction of the four control variables. In view of this evidence, it would appear to indicate, that the predictive value of social class, by itself, is of some significance. The relationship between social class and length of hospitalization is shown diagramatically in Figure 3. Some explanatory hypothesis may be offered for this finding.

Most psychiatrists believe that the earlier a treatment program is initiated for a patient, the greater are his chances of success, with the probability of remission highest if an active treatment

FIGURE 3

PERCENTAGE OF LONG-TERM AND SHORT TERM PATIENTS CLASSIFIED BY SOCIAL CLASS
DATA BASED ON 455 PATIENTS INCLUDED IN THIS STUDY.



program is begun early, before the major withdrawal occurs.[1]

In a study by Myers and Roberts[2], it was found that most lower class schizophrenics have experienced this major decompensation several years before any treatment could be enacted, and they were chronic patients before they reached the hospital. To explain this phenomenon, further results of this study indicated that lower class persons knew little about mental illness, and were therefore slow in recognizing psychiatric symptoms.[3] Most lower class families took no action at the onset of the illness and the patients in these families were kept at home even though their behavior displayed clearly psychotic symptoms. When they finally did notice the bizarre, inappropriate behavior of the psychotic, they attributed it to some

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[1]See David Stafford-Clark, Psychiatry Today (London: Pelican Books, 1963), p. 230; Jerome K. Myers and Bertram H. Roberts, op. cit., p. 5; W. Lloyd Warner, op. cit., p. 7.

[2]Jerome K. Myers and Bertram H. Roberts, op. cit., pp. 201-221.

[3]See John A. Clausen and Marion R. Yand, "The Impact of Mental Illness on the Family", Special Issue, The Journal of Social Issues, (1958), for a discussion on this point.

willful and innate tendency to cause trouble. Only when the patient's behavior displayed a dangerous, violent, or irresponsible nature did he come into contact with hospital authorities. By this time, the withdrawal of the patient had become acute, making it much more difficult for the psychiatrist to treat, and greatly reducing the probability of success for an early discharge.

On the other hand, the Myers-Roberts study revealed that the upper class patients' path to treatment was quite different. Typically, the upper classes had more positive attitudes toward psychiatry than did the lower-class individuals. They respected psychiatrists, valued good health, recognized mental disorders as illnesses, and were sympathetic to the sick individual.[4] The families recognized the patient's classical psychotic symptoms when they first appeared, and sought immediate medical attention. Usually, the psychotic symptoms were present for only a month before they were recognized and acted upon by the family. The Myers and Roberts study revealed that the time lapse between the onset of illness and the entry into treatment was short, greatly increasing the probability

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[4]See also Leopold Bellak, op. cit., pp. 259-261.

of a shorter hospital stay for the upper class patient.

The combined effect of such factors as the lack of comprehension of psychiatric illness on the part of lower class patients and their families, their negative attitudes toward psychiatry, their distrust of psychiatrists, and their reluctance to seek psychiatric help, prolonged the time lapse between the onset of illness and entry into treatment. This may account, in part, for the direct association obtained between lower class position and prolonged behavior pathology.

Another important factor in the determination of how long a patient remains in hospital is the attitude of the family towards its institutionalized psychotic member. Undoubtedly, there are many patients who have to remain hospitalized, even though they have recovered sufficiently to leave the hospital, simply because their families were not ready to accept them back home. Substantial class differences in attitudes toward mentally ill patients by their families were reported by Hollingshead and Redlich,[5] and also by Cumming and Cumming.[6] Class differences in attitudes

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[5] A. B. Hollingshead and F. C. Redlich, op. cit., pp. 335-356.

[6] E. Cumming and I. Cumming, Closed Ranks: An Experiment in Mental Health Education, (Cambridge: Harvard University Press, 1957) pp. 57-58.

were also found among schizophrenic patients and their families by Myers and Roberts.[7] These studies indicated that in many cases, the attitude of the lower class family toward the patient was one of fear and resentment, and were more likely to respond to hospitalization by virtual abandonment of the patient. This necessitated a longer hospital stay for the lower class patient simply because he had no other place to go. Such behavior may have other serious consequences for outcome; a recent British study reports that schizophrenics who had not received hospital visits from friends or relatives had a very unfavorable chance of obtaining an early discharge.[8] The upper classes, on the other hand, continued to be concerned about their sick relatives throughout their hospitalization, and it was reported by Myers and Roberts, that the possibility of re-acceptance into the family was very high. Similar results were obtained by Hollingshead.[9]

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[7] J. K. Myers and B. H. Roberts, op. cit., pp. 335-356.

[8] G. W. Brown, "Social Factors Influencing the Length of Hospital Stay of Schizophrenic Patients", British Medical Journal, 24: 314-318, 1959.

[9] A. B. Hollingshead and F. C. Redlich, op. cit., pp. 815-821.

Conceivably, the difference in discharge rates could result from the application of different discharge criteria to patients of different social classes. It might be assumed that patients in the higher classes would tend to be discharged at lower levels of improvement than other patients, since their personal and family resources would be viewed by the psychiatrist as more adequate for assisting in their readjustment to the community.[10] Also, a psychiatrist may be more apt to release a patient from hospital at a lower level of improvement if the patient has adequate means and desire to continue his treatment with a private psychiatrist. The lower class patient, on the other hand, would find it difficult, if not impossible, to employ the services of a private psychiatrist for continued treatment after release, and might, therefore, be kept in hospital until a higher level of improvement had been reached. The above is proposed as a possible explanation, since the extent to which class differences in discharge rates are a function of differences in improvement has not been fully established.[11] To verify the above speculation, information would also be required

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[10] R. H. Hardt and S. J. Feinhandler, op. cit., pp. 815-821.

[11] Ibid., p. 820.

on the improvement level of those patients who were not discharged.

In the present study, over 56 per cent of the total population were lower class patients. This extremely large percentage of lower class patients has important implications with regard to treatment procedures. At the Selkirk Mental Hospital supportive psychotherapy, supplemented by physical treatments, is given to all patients.[12] Stotsky,[13] in a recent study, found that patients from lower class families were less favorably disposed toward psychotherapy than those from the upper classes. The data of Hollingshead and Redlich[14] parallel this finding when they describe the enormous difficulties encountered in attempting psychotherapy with lower class patients. They found that the therapists were repelled by the crude, vulgar language and the outbursts of violence displayed by the lower class patient. They were amazed at the sexual mores of the lower class patients

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[12] We are indebted to Dr. M. C. Kovacs, Assistant Medical Superintendent of the Selkirk Mental Hospital, for this information.

[13] B. A. Stotsky, "How Important is Psychotherapy to the Hospitalized Psychiatric Patient", Journal of Clinical Psychology, 12: 32, 1956.

[14] A. B. Hollingshead and F. C. Redlich, op. cit., pp. 344-350.

and upset by their acceptance of such behavior as wife-beating, and their apathetic endurance of poverty and economic insecurity. They complained about the short attention span, the stupidity, and the dullness of these patients in their capacity for verbalization and symbolization. The result of this wide social and psychological gulf between the lower class patient and the therapist, made the establishment of rapport impossible, greatly reducing the effectiveness of the therapy sessions. Another factor which inhibited the effectiveness of psychotherapy on lower class patients was the fact that very few of these patients entered treatment voluntarily. In our study population, over 72 per cent of Class VI patients were institutionalized by court action. Hence, as was pointed out in Hollingshead's study, the lower class patient can hardly be expected to oblige the psychiatrist by being cooperative during the therapy session. The lower class patient was therefore more apt to get short-term supportive psychotherapy, instead of the prolonged psychotherapy given to the upper class patient. Further results of the Hollingshead study indicated that, in many cases, the lower class patient, unable to comprehend how thinking and talking could help them, frustrated by the alien value orientations and prejudices of the

psychiatrist, often dropped out of the therapy sessions, only to drift to the back wards of the hospital, where, in stultifying isolation, regressed, greatly reducing his chances for a quick recovery. In view of such findings, the question may be raised whether the use of traditional psychotherapeutic methods with a heavily lower class population does not need re-evaluation. Of course, since this aspect of the treatment process was not investigated in the present research, the explanation offered must be proposed as a tentative possible explanation until conclusive data are produced.

In the present literature, there is increasing recognition of the significance which social class factors play in the etiology of schizophrenia. These studies are nearly all unanimous in their acceptance of the fact that there are a set of predisposing conditions in community life and in the family situation which are factors in the development of schizophrenia.[15] Specifically, the conditions referred to

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[15] See, for example, B. Bettelheim, "Individual and Mass Behavior in Extreme Situations", Journal of Abnormal and Social Psychology, 38: 164, 1943; R. E. Faris and H. W. Dunham, Mental Disorders in Urban Areas: An Ecological Study of Schizophrenia and Other Psychoses, (Chicago: University of Chicago Press, 1939); B. S. Rowntree, Poverty and Prognosis, (London: Longmans, Green and Co., 1941.).

are: parental deprivation, economic insecurity, marital discord, broken homes, unequal distribution of life-chances, adverse family environment, critical life situations, interpersonal conflicts, conflicting and disorganizing cultural values, and so forth. Moreover, studies have shown that the conditions reviewed above are most characteristic of the lower class.

There is, however, a distressing dearth of definitive studies which relate these class-linked variables to psychiatric prognosis. It is the author's contention, however, that the concept of prognosis can be approached from the same theoretical standpoint which emphasizes the nature of the social environment as one etiological source of behavior pathology. In other words, the same social class variables which help generate schizophrenia, may also affect the behavior organization of the individual in ways which are related to prognosis.

In contrast to the higher classes, the reality situation of the lower classes are threatening, harsh, and in many ways hopeless. Hollingshead stated that lower class patients, who have an insoluble reality situation, often have little desire to get well.[16] Freud, years ago, expressed his thoughts

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[16] A.B. Hollingshead and F.C. Redlich, op. cit., p. 348.

on this point.

> "We shall probably discover that the poor are even less ready to part with their neurosis than the rich, because the hard life that awaits them when they recover has no attraction, and illness in them gives them more claim to the help of others."[17]

This comes as no surprise when we consider the impoverished life situations of the lower class patient. Typically, a lower class patient experiences years of periodic, transient employment, congested living conditions, disorganized home life, mistreatment by persons in authority, inferior status, deprived economic conditions and so forth. The total environment of the lower classes nurtures a deep sense of extreme frustration, anxiety, isolation, rejection and hostility in the patient.[18] The lower class patient feeling trapped and powerless in such inhibiting circumstances may very easily slip into the dangerous state of lethargy, reducing the effectiveness of psychiatric treatment and hence greatly reducing his chances for an early discharge.

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[17]Sigmund Freud, Collected Papers Vol. 11 (London: The Hogarth Press and the Institute of Psycho-Analysis, 1950), 400-402.

[18]For a comprehensive statement regarding the dynamics of lower class living see, Francis E. Merrill,

Psychiatrists in recent years have become increasingly aware of the importance which the social environment of the mental hospital plays in the treatment of mental disorders. A report by the Committee on Mental Health Services aptly summarized the current trend in Canada as follows:

> ".....The whole atmosphere of the unit and of the individual nursing units is of the greatest significance and is probably the most important single therapeutic factor. Attention should be paid to the physical appearance of all aspects of the unit, and the color, materials and general decor should be bright, cheerful and comfortable. Regular routines, and a comprehensive program of activities must be established."[19]

This statement expresses the current emphasis which is being placed on the building of facilities and the development of programs which are conducive to the formation of a therapeutic milieu, which psychiatrists believe facilitate the early discharge of patients.[20]

Society and Culture (Englewood Cliffs, N.J.: Prentice Hall Inc., 1965,) pp. 320-329; Bernard Barber, Social Stratification, (New York: Harcourt, Brace and World Inc., 1957,) pp. 307-315.

[19] J. S. Tyhurst et. al., More For The Mind: A Study of Psychiatric Services in Canada, (Toronto: The Canadian Mental Health Association, 11½ Spadina Road, 1963), p. 91.

[20] For a comprehensive statement regarding the factors believed essential to the formation of a therapeutic community see, Louie Linn, "Hospital Psychiatry," in Silvano Arieti (ed.) Vol. 11, American Handbook of Psychiatry, (New York, Basic Books Inc., 1959), pp. 1829-1834.

The report continues,

> ".....Many different types of social and activity programs are now being developed within this context, such as recreation, physical exercises, activities, library work, art, music, drama, manual and technical crafts, vocational training and counselling, etc."[21]

It is the author's contention, however, that making the patient's stay in hospital a very pleasant one, may not be in accord with the best interests of therapy. i.e. discharge. We must be aware that in a majority of cases, the lower class patient comes to hospital physically, materially, and psychologically impoverished, and that the primary emphasis on pleasantness may engender or intensify attitudes of retreat and dependency in the lower class patient, which are certainly not conducive to early discharge. Moreover, to force middle-class decorum upon such persons would be to increase the burden of guilt which psychiatrists say they are trying to remove. This would inhibit the effectiveness of the therapy process and decrease the likelihood of an early discharge for lower-class patients.

The author believes that if such activities and facilities are to be organized with regard to

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[21] J.S. Tyhurst, et. al., op. cit., p. 173.

maximum therapeutic effectiveness in fostering emotional growth, then the program must approach each patient with reference to the environment from which he comes.[22] For it seems illogical to force middle-class living on lower-class patients, who in all liklihood after discharge, will return to their lower class environment and be more vulnerable than ever to the exigencies of lower class living. The psychiatrist must know the dynamics of our class structure and be aware that the therapeutic milieu which he believes so important in the treatment of mental disorders, may not be effective on the lower class patient. In other words, rather than placing the lower class patient in a relatively affluent environment to which he is not accustomed, and which may engender attitudes of complacency, dependency and guilt, primary emphasis should be given to the ways in which the patient can understand and solve the realities that frustrated him in the lower class environment. This would facilitate the treatment process in preparing him for his eventual return to the community, and help him deal more adequately and

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[22]This opinion was also expressed by Dr. R.F. Creasy, a psychiatrist at the Selkirk Mental Hospital.

effectively with the problems he will have to face as a result of his lower class position. Of course, we have no absolute proof that middle-class therapy operates in ways which are less conducive to the early discharge of these patients. The only evidence we offer to support this speculation, is the fact that the empirical results of this study show that lower class patients remain hospitalized longer than upper class patients.

Marital Status.

Marital status was investigated with respect to length of stay, holding social class, diagnostic sub-type, age on admission, and form of admission constant. In the first analyses social class was held constant. As indicated in Table VIII, two separate analyses were performed, employing the two possible combinations of marital status and social class. Both analyses failed to yield any significant differences between married and unmarried patients. Thus, when social class was held constant, marital status did not prove significantly related to length of hospital stay.

This result may be explained by the fact that the higher classes contained a markedly different proportion of patients from that of the lower classes

with respect to marital status. There were more married patients in the upper classes and a greater proportion of unmarried patients in the lower classes. It has been shown that class differences were favorable to a shorter length of stay for higher class patients. That is, a married patient would be more likely to leave within a relatively short period of time, not by virtue of marital status itself, but because by being in that marital category, he would be more likely to fall into an upper class position.

TABLE VIII

COMPARISON OF PATIENTS IN THE TWO MARITAL CATEGORIES ON LENGTH OF STAY WITH SOCIAL CLASS HELD CONSTANT

Marital Status	Social Class				Total
	A		B		
	L.	S.	L.	S.	
Married	10	57	35	23	125
Unmarried	31	101	141	57	330
Total	41	158	176	80	455
X^2 =	1.99		2.46		
P =	> .01		> .01		

Marital status was then studied in relation to length of stay, holding diagnostic sub-type constant. As indicated in Table IX, six separate analyses were

TABLE IX

COMPARISON OF PATIENTS IN THE TWO MARITAL STATUS CATEGORIES ON LENGTH OF STAY, WITH DIAGNOSTIC SUB-TYPE HELD CONSTANT

Marital Status	Simple		Hebephrenic		Diagnostic Sub-Type Paranoid		Catatonic		Schizo-Aff.		Unspec.	
	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.
Married	4	0	10	3	18	45	4	3	5	14	4	13
Unmarried	9	7	6	1	52	52	25	17	11	14	69	69
TOTAL	13	7	16	4	70	97	29	20	16	28	73	82
X^2 =	2.69		.21		7.39		.01		1.45		4.25	
P =	>.01		>.01		<.01		>.01		>.01		>.01	

performed, employing the six possible combinations of marital status and diagnosis. For patients with a diagnosis of simple, hebephrenic, catatonic, schizo-affective, and unspecified disorders, the variables of marital status proved unrelated to length of hospital stay. With the paranoid group, however, a significant finding was obtained. Married paranoid patients stayed a shorter period of time than unmarried ones. In brief, being married was associated with early discharge only for paranoid patients; it was unrelated to early discharge for all other diagnostic categories.

These results are not completely in accord with the expectation based upon other reports in the literature, which attribute a higher degree of prognostic value to the marital status of schizophrenic patients.[23] Most of the research reviewed, however,

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[23]For example, see J. S. Jacob, "Prediction of Outcome on Furlough of Dementia Praecox Patients," Genet. Psychological Monograph, 22: 425-453, 1940; W. Malamud and N. Render, op. cit., pp. 1039-1057; V. Norris, op. cit., p. 102; E. Brook, "A Longitudinal Study of Patients First Admitted to Mental Hospitals," Procedures of the Royal Society of Medicine, 52: 280, 1959; J. K. Wing, J. Denham and A. B. Monroe, "The Duration of Stay in Hospital of Patients Suffering from Schizophrenia," Journal of Preventive Social Medicine, 13: 145, 1959; G. R. Pascal and C. H. Swensen, op. cit., pp. 163-171.

studies marital status in relation to the whole disease entity, without controlling for the various sub-types of the syndrome. When a variable such as marital status is studied in relation to the outcome of a particular disease, such as schizophrenia, it is our contention that a more meaningful and much clearer notion of the relationship can be obtained if variations of the disease are held constant while the duration is varied. It is our belief that in many of these studies, the variance which gave marital status its prognostic validity was due to the contributing influence of only one, or possibly two diagnostic sub-types. It is worth noting that, in this study, a non-significant relationship was found between marital status and duration of illness for five of the six diagnostic sub-types. It should be pointed out, however, that in this sample, several sub-types in the schizophrenic category contained too few cases for valid comparisons with other findings. Some explanatory hypotheses, however, may be offered for our finding.

One explanation may be in terms of "selection by marriage." Studies of schizophrenic patients have

shown that more than half had schizoid[24] personalities before the development of the actual psychosis.[25] This personality type, characterized by autistic thought processes, avoidance of close intimate relationships, inability to deal with ordinary life stresses, and limited communication with his environment, is more prone to remain single and, upon development of a schizophrenic process, to offer a reaction pattern more resistive to psychiatric therapy.[26] Studies have shown that the onset of illness of the simple, catatonic, hebephrenic and schizo-affective patients, occurs relatively early in life, and are characterized by the above personality type.[27] This would

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[24]Some authors use this term to mean that the patient is suffering from "mild" schizophrenia; in other words, he has always suffered from schizophrenic symptoms. For a comprehensive statement see L. Bellak, Schizophrenia: A review of the syndrome, (New York, Logos Press, Inc., 1958), p. 119.

[25]See A. P. Noyes and L. C. Kolb, Modern Clinical Psychiatry, (Philadelphia, W. B. Saunders Company, 1963), p. 61; O. Oedegaard, "Marriage and Mental Disease: A Study in Social Psychopathology", Journal of Mental Science, 92: 35, 1946; I. J. Nannarello, "Schizoid", Journal of Nervous and Mental Disorders, 118: 237, 1953.

[26]Aaron S. Mason, op. cit., p. 15.

[27]See, for example, A. P. Noyes and L. C. Kolb, op. cit., ch. 25; N. A. Cameron, The Psychology of Behavior Disorders: A Biosocial Interpretation, (New York, Houghton Mifflin Co., 1947), p. 155; Leopold Bellak, op. cit., ch. 4.

necessitate an earlier hospitalization for these patients and reduce their likelihood of marriage. On the other hand, the onset of the actual psychosis among paranoid patients generally occurs later in life, usually around the middle forties, and are therefore institutionalized much later.[28] On the basis of these facts we may hypothesize that the pre-psychotic personality of the paranoid is relatively free of schizoid tendencies between the ages of twenty and thirty years, or at least the disease has not advanced to a psychotic level at that age necessitating hospitalization. This would increase the liklihood of marriage among these patients and may explain the large number of married paranoid patients in this sample. Moreover, being married may be indicative of greater ability to enter into close interpersonal relationships, and deal with ordinary life stresses, both of which facilitate the treatment process, greatly increasing the probability for an early discharge. This may explain, in part, the early discharge rates among married paranoid patients. Also, the presence of a spouse in the community may motivate the patient towards a more rapid recovery, or, because of social or economic FACTORS

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[28]David Stafford-Clark, op. cit., p. 108.

may exert pressure for a somewhat earlier discharge.[29]

J. M. Wanklin, in a recent study, has suggested that the discharge advantage enjoyed by married patients may be associated with the group's propensity for financial independence, close family ties, availability of better facilities for maintenance, care, and supervision in the home.[30]

In the next analysis, marital status was studied in relation to length of stay holding age constant. The groups studied and the results obtained are shown in Table X. For patients in the ten to twenty-nine and fifty to sixty-nine age groups, marital status proved unrelated to length of hospital stay. In the thirty to forty-nine age group, however, a significant finding was obtained. In this age group more than twice as many married patients than unmarried ones, left the hospital before twenty-four months. In brief, being married was associated with early discharge only for those patients between the ages of thirty and forty-nine; it was not related to early discharge for all other age groups.

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[29]Aaron S. Mason, op. cit., p. 15.

[30]J. M. Wanklin, et. al., op. cit., p. 663.

TABLE X

COMPARISON OF PATIENTS IN THE TWO MARITAL STATUS CATEGORIES ON LENGTH OF STAY, WITH AGE ON ADMISSION HELD CONSTANT

Marital Status	Age on Admission						Total
	10-29		30-49		50-69		
	L.	S.	L.	S.	L.	S.	
Married	12	18	25	52	7	9	123
Unmarried	88	94	62	55	19	10	328
TOTAL	100	112	87	107	26	19	451
X^2 =	.72		7.90		2.00		
P =	$>.01$		$<.01$		$>.01$		

Final analysis investigated the relationship between marital status and length of stay with form of admission held constant. As indicated in Table XI, the variable of marital status proved unrelated to length of stay for those patients who came to hospital voluntarily. With the certified group, however, a significant relationship was found. In this group the married patients remained a significantly shorter period of time in hospital than did the unmarried certified patients.[31] There is perhaps an inherent

[31] See A. Harris and V. Norris, op. cit., pp. 727-731.

fallacy in these results: namely, that some of the patients now admitted under voluntary status would formerly have been admitted under certification, since there was a tendency among psychiatrists at the hospital to certify those patients whose illness appeared long-lasting and chronic, rather than trying to persuade the patient to enter hospital voluntarily. At the present time, however, psychiatrists at the hospital do advise patients to enter hospital and accept treatment voluntarily.[32] Hence the two admission groups in this sample are not truly comparable and the significance of the results involving this variable are inconclusive.

TABLE XI

COMPARISON OF PATIENTS IN THE TWO MARITAL STATUS GROUPS ON LENGTH OF STAY, WITH FORM OF ADMISSION HELD CONSTANT

Marital Status	Form of Admission				Total
	Voluntary		Court Certificate		
	L.	S.	L.	S.	
Married	27	22	18	56	123
Unmarried	48	46	124	114	332
TOTAL	75	68	142	170	455
X^2 =	.21		17.56		
P =	$> .01$		$< .01$		

[32] We are indebted to Dr. R. H. Tavenor, Medical Superintendent of the Selkirk Mental Hospital, for this information.

Age on Admission:

As indicated in Table XII, all analyses failed to yield any significant relationship between the age of the patient on admission and the duration of his hospital stay. These results are in keeping with expectancy based on the results of other investigators. Pascal[33], for instance, reviewed 486 cases and was unable to attach any prognostic importance to age. Rupp and Fletcher,[34] Chase[35], and Herzberg[36], also found no bearing between age and psychiatric prognosis. Kramer, et. al., in their analysis of patients at the Warren State Hospital also raise the question of whether there is a significant correlation between age and prognosis; their data suggest that advances

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[33] G. R. Pascal and C. H. Swensen, op. cit., p. 167.

[34] C. Rupp and E.K. Fletcher, "Five to Ten Years Follow-up Study of 641 Schizophrenic Cases, "American Journal of Psychiatry, 96: 877, 1940.

[35] L. S. Chase and S. Silverman, "Criteria in Schizophrenia: Critical Survey of Literature," American Journal of Psychiatry, 128: 360-368, 1941.

[36] F. I. Herzberg, "Prognostic Varieties for Electro-Shock Therapy. (University of Pittsburgh: Doctor's Dissertation, 1950.).

TABLE XII

TESTS OF RELATIONSHIP BETWEEN AGE ON ADMISSION AND LENGTH OF STAY, CONTROLLING FOR INTERRELATED VARIABLES*

		X^2 Significance Tests		
		X^2	P.	D/F
1.	Age and Length of Stay Controlling for Social Class			
	Class A	5.61	>.01	2
	Class B	2.21	>.01	2
2.	Age and Length of Stay Controlling for Diagnosis			
	Simple	2.33	>.01	2
	Hebephrenic	.67	>.01	2
	Paranoid	.69	>.01	2
	Catatonic	.30	>.01	2
	Schizo-Affective	6.18	>.01	2
	Unspecified	2.11	>.01	2
3.	Age and Length of Stay Controlling for Marital Status			
	Married	1.04	>.01	2
	Unmarried	3.10	>.01	2
4.	Age and Length of Stay Controlling for Environment			
	Rural	2.33	>.01	2
	Urban	.63	>.01	2

*The tables containing the distribution of these variables and duration may be found in Appendix D.

in treatment and changing attitudes toward patients and their management may be more important than age *per se*.[37]

The association between age on admission and length of stay, which did not prove significant in the present research, may be explained by the fact that age affected probability differentials indirectly, through a process of selection, rather than through any direct influence. Selection on the basis of marital composition and diagnosis, probably enhanced the prognostic value of age. It will be recalled that the thirty to forty-nine age group contained a markedly different proportion of married paranoid patients than in any of the other age groups. In the previous analysis it was shown that marital and diagnostic differences were favorable to a shorter hospital stay for married paranoid patients. Hence, a patient would be more likely to leave the hospital within a relatively short period of time, not by virtue of being young in itself, but because by being at that age, he would be more likely to fall into a favorable marital and diagnostic category. These data do not completely negate the importance of age at admission. Instead they indicate that for this sample, age is related to length of stay in an indirect and complex

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[37] M. Kramer, *et. al.*, *op. cit.*, p. 165.

rather than a direct and simple manner.

Form of Admission:

The two types of admission procedures were studied with respect to length of stay, holding diagnostic sub-type and marital status constant.

In the first analysis, diagnostic sub-type was held constant. As shown in Table XIII, six separate analyses were performed, employing the six possible combinations of diagnosis and form of admission. All six analyses failed to yield any significant differences between certified and voluntary patients. Thus, when diagnosis was held constant, form of admission did not prove significantly related to length of stay.

Form of admission was then investigated with respect to length of stay, controlling for marital status. The groups studied and the results obtained are shown in Table XIV. For patients in the unmarried category, the variable, form of admission, proved unrelated to length of stay. With the married group, however, a significant finding was obtained. The married patients who were committed to hospital by a court certificate stayed a shorter period of time than did the married voluntary patients. In brief, being committed to hospital was associated with early discharge only for the married patients. It was

TABLE XIII

COMPARISON OF VOLUNTARY VS. CERTIFIED PATIENTS ON LENGTH OF STAY, WITH DIAGNOSTIC SUB-TYPE HELD CONSTANT

Form of Admission	Diagnostic Sub-type: Simple		Hebephrenic		Paranoid		Catatonic		Schizo-Affec.		Unspec.	
	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.	L.	S.
Voluntary	9	4	11	2	15	17	10	3	9	14	21	27
Court Certificate	4	4	5	2	55	80	19	17	7	14	52	55
TOTAL	13	8	16	4	70	97	29	20	16	28	73	82
X^2 =	1.31		.49		.39		2.30		.15		.31	
P =	> .01		> .01		> .01		> .01		> .01		> .01	

TABLE XIV

COMPARISON OF VOLUNTARY VS. CERTIFIED PATIENTS ON LENGTH OF STAY, WITH MARITAL STATUS HELD CONSTANT

Form of Admission	Marital Status				Total
	Married		Unmarried		
	L.	S.	L.	S.	
Voluntary	27	22	48	46	143
Court Certificates	18	56	124	114	312
TOTAL	45	78	172	160	455
X^2 =	12.03		.02		
P =	<.01		>.01		

unrelated to early discharge for the unmarried patients.

However, due to the effect of selection on the basis of marital status, and the fact that the two admission groups were not comparable in this sample, renders the results of this analysis inconclusive.

Environment:

The environment of the patient was studied in relation to length of stay holding social class and age on admission constant. In the first analysis, age was held constant. As shown in Table XV, the three analyses failed to reveal any significant differences between urban and rural patients with

TABLE XV

COMPARISON OF URBAN VS. RURAL PATIENTS ON LENGTH OF STAY, WITH AGE ON ADMISSION HELD CONSTANT

Environment	Age on Admission 10-29 L.	10-29 S.	30-49 L.	30-49 S.	50-69 L.	50-69 S.
Urban	43	35	45	34	13	7
Rural	57	77	42	73	13	12
TOTAL	100	112	87	107	26	19
X^2 =	3.13		6.14		.76	
P =	>.01		>.01		>.01	

respect to length of hospital stay. In the next analysis, social class was held constant. As indicated by Table XVI, the variable of environment proved unrelated to length of stay for class B patients. With the Class A group, however, a significant relation was obtained. In this group more than two-thirds of the urban patients were discharged from hospital before twenty-four months. This result may be explained also through a process of selection rather than through any direct influence. Selection on the basis of social class composition probably enhanced the urban admission group's favorable discharge outlook, since

TABLE XVI

COMPARISON OF URBAN VS. RURAL PATIENTS ON LENGTH OF STAY, WITH SOCIAL CLASS HELD CONSTANT

Environment	Social Class			
	Social Class A		Social Class B	
	L.	S.	L.	S.
Urban	32	114	81	48
Rural	22	31	82	45
TOTAL	54	145	163	93
X^2 =	7.54		.08	
P =	$<.01$		$>.01$	

60 per cent of urban patients were found in Class A. Hence, a patient would be more likely to leave hospital within twenty-four months, not by virtue of membership in an urban environment itself, but because by being in that environment, he would more likely fall into a more favorable social class.

Diagnostic Sub-type:

The final analysis of this study investigated diagnostic sub-type in relation to length of hospital stay, holding constant, social class, form of admission, age on admission, and marital status. In the first analysis, two chi-square tests were performed

controlling for social class. Both analyses failed to yield any significant differences between the six diagnostic sub-types and length of stay. It may be remembered that when social class was investigated with respect to duration, holding diagnostic sub-type constant, significant relationships were obtained in all diagnostic categories with the exception of the simple and hebephrenic categories. These were the only analyses in which social class did not correlate with the criterion. The present analysis, however, seems to infer that these two diagnostic groups are not related to psychiatric prognosis. The table representing this over-all analysis may be found in Table 5-D in Appendix D.

In the next analysis, two separate tests were performed controlling for form of admission. Both analyses again failed to yield any significant differences between diagnosis and length of stay. It has been noted elsewhere, however, that the reliability of the results involving form of admission are questionable. The table representing these tests may be found in Appendix D.

A third over-all analysis investigated diagnostic sub-type in relation to duration of stay, controlling for age on admission. In the fifteen to

to twenty-nine, and fifty to sixty-nine age categories, no significant relationship was obtained between the six diagnostic sub-types in relation to length of hospital stay. In the thirty to forty-nine age category, a significant relationship was found. The results shown in Table XVII seem to indicate, that more paranoid patients in this age group were released from hospital within the two year period. This result is certainly interesting since this is within the age period when most paranoid patients are admitted to hospital. In view of this finding, one might hypothesize that the types of treatment given to schizophrenics effect the paranoid patient in ways which are more favorable to an early discharge, than to the other diagnostic sub-types.[38] In any case, this finding is worthy of consideration and one that further research might clarify.

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[38]Many authors have noted the superiority of results with atarctic drugs in the paranoid sub-type over the other groups. See, for example, J. A. Barsa and N. S. Kline, "Use of Resperine in Disturbed Psychotic Patients," American Journal of Psychiatry, 112: 684-691, 1956; L. E. Hollister et. al., "Treatment of Chronic Schizophrenic Reactions with Resperine," Annals of the New York Academy of Science, 61: 92-100, 1955; A. A. Sainz, "Clinical Applications of Chlorpromazine in Psychiatry," Psychopharmacology, 42: 39-58, 1956; V. Kinross-Wright, "Chlorpromazine Treatment of Mental Disorder," American Journal of Psychiatry, 3: 907-912, 1955.

TABLE XVII

COMPARISONS OF PATIENTS IN THE VARIOUS DIAGNOSTIC GROUPS ON LENGTH OF STAY, WITH AGE ON ADMISSION HELD CONSTANT

Diagnostic Sub-type	Age on Admission 10-24 L.	10-24 S.	30-49 L.	30-49 S.	50-69 L.	50-69 S.
Simple	5	4	3	3	3	0
Hebephrenic	4	1	9	2	3	0
Paranoid	19	26	37	58	12	13
Catatonic	18	13	9	5	2	2
Schizo-affective	12	12	2	14	2	2
Unspecified	42	56	27	25	4	2
TOTAL	100	112	87	107	26	19
X^2 =	5.14		17.43		5.75	
P =	$>.01$		$<.01$		$>.01$	

A fourth and final analysis investigated the relationship of diagnosis to length of stay, controlling for marital status. For unmarried patients, the variable of diagnostic sub-type proved unrelated to length of stay. With the married group, however, a significant finding was obtained. Table XVIII indicates that more married paranoid patients were

released from hospital within the two year period. The influence of marital status on paranoid patients with respect to their duration of hospitalization has been reported previously.

TABLE XVIII

COMPARISON OF PATIENTS IN THE VARIOUS DIAGNOSTIC GROUPS ON LENGTH OF STAY, WITH MARITAL STATUS HELD CONSTANT

Diagnostic Sub-type	Marital Status: Married L.	Married S.	Unmarried L.	Unmarried S.
Simple	4	0	9	7
Hebephrenic	10	3	6	1
Paranoid	18	45	52	52
Catatonic	4	3	25	17
Schizo-affective	5	14	11	14
Unspecified	4	13	69	69
TOTAL	45	78	172	160
X^2 =	21.18		5.27	
P =	$< .01$		$> .01$	

The fact that sub-diagnosis did not prove to be an important factor in psychiatric prognosis, with the exception of the paranoid group, may be explained in part by diagnostic change. There is

general agreement among investigators that the symptoms of some schizophrenics can change, especially in the early stages of disorder.[39] If this change in diagnosis occurred frequently among the patients in our sample, the results of the analysis involving this variable would be spurious, since the diagnosis on admission was used in all tests.

Secondly, several studies have shown the unreliability of diagnosis in schizophrenia.[40] The study by Ash revealed that when three psychiatrists were asked to diagnose fifty-two schizophrenic patients, total agreement was achieved in only 20 per cent of the cases. Bellak[41] points out that this result is not surprising, since the criteria upon which a diagnosis of schizophrenia is made is not clear, and subject to the particular frame of reference of the

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[39] S. Kirson Weinberg, "A Sociological Analysis of a Schizophrenic Type," American Sociological Review, 15: 600-610, 1950.

[40] See, for example, F. N. Arnhoff, "Some Factors Influencing the Unreliability of Clinical judgements" Journal of Clinical Psychology, 10: 272, 1954; P. Ash, "The Unreliability of Psychiatric Diagnosis, Journal of Abnormal Social Psychology, 44: 272, 1949; B. Mehlman, "The Reliability of Psychiatric Diagnosis," Journal of Abnormal Social Psychology, 47: 577, 1952.

[41] Leopold Bellak, op. cit., pp. 108-109.

psychiatrist. A lack of uniformity in psychiatric diagnosis in our sample population would certainly affect the analysis involving this variable. However, it must be made very clear that the question of sub-diagnostic change and variability in diagnosis as functions tending to confound the relationship between diagnosis and duration of illness, was not empirically investigated in this research, and is offered only as a tentative possible explanation.

CHAPTER V

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to investigate the duration of initial hospitalization of schizophrenic patients, and to test the hypothesis that prolonged mental illness was inversely related to the class level of the patient.

The population upon which the hypothesis was tested, consisted of male schizophrenics, admitted to the Selkirk Mental Hospital at Selkirk, Manitoba, during the years 1956 to 1961, who were free from serious incapacitating somatic illness, and free from known cortical damage. There were 455 patients who met these conditions.

The relationship between the patient's length of hospital stay and the following variables was determined by a chi-square analysis:

1. Social Class
2. Diagnostic sub-type
3. Marital status
4. Age on Admission
5. Religion
6. Family history of mental disease
7. Environment
8. Number of previous admissions to a mental hospital.

9. Form of admission
10. Ethnic background

In the first analysis, the following variables were significantly related to length of hospital stay at the one per cent level of confidence:

1. Social class
2. Marital status
3. Environment
4. Form of admission
5. Age on admission
6. Diagnostic sub-type

In the second major analysis, each of the six significant variables, in turn, were studied in relation to each of the remaining five significant variables, to test the possibility of interdependence. It was clear from this analysis that these variables, which initially were found to be related to length of stay, were themselves interrelated to a significant degree. This result necessitated further analysis, since the lack of independence naturally raised the possibility that some of the initial results were confounded by the influence of the other interrelated variables. In this final analysis, the association between each significant variable on length of hospital stay was studied controlling for all intervening variables, one at a time.

In the first analysis, social class was investigated with respect to length of hospital stay, holding constant in separate analysis, the interrelated variables of diagnostic sub-type, age on admission, marital status, and environment. In all analysis, with the exception of the one involving the simple and hebephrenic diagnostic sub-types, there was a significant difference between the two social classes on length of stay. The higher classes had a significantly shorter time in hospital than did the lower classes. In explaining the results obtained when the simple and hebephrenic sub-types were held constant, it was suggested that the validity of the results may be questioned on the grounds that the total number of cases within these sub-types were too small for an adequate statistical analysis. Explanatory hypothesis were offered to explain the duration differentials between upper and lower class patients.

In the second analysis, marital status was studied in relation to hospital duration, holding social class, diagnostic sub-type, age on admission, and form of admission constant. When social class was held constant, no significant differences between married and unmarried patients was obtained in relation to hospital duration. It was proposed that selection on the basis of social class composition

probably enhanced the prognostic worth of marital status in the initial analysis of the study. Subsequent analysis however, revealed the importance of marital status in relation to diagnosis. Married paranoid patients effected a faster recovery rate than all other sub-types in the same marital category. Selection by, and availability for marriage on the part of paranoid patients, were proposed as tentative possible explanations. Further results revealed, that twice as many married patients as unmarried ones, in the thirty to forty-nine age group, were discharged from hospital within the period of twenty-four months. Also, it was shown that married patients, certified to hospital, remained a significantly shorter period of time in hospital than did the unmarried certified patients. It was suggested, however, that the results of this analysis were questionable due to the incomparability of the two admission groups. It was interesting to note, however, the shorter hospital duration of the married patients.

In the third analysis, age on admission, was investigated with respect to hospital duration, controlling for social class, marital status, diagnostic sub-type, and environment. All analysis failed to yield any significant difference between the age of

the patient on admission to hospital, and the length of his hospital stay. This result, as we have noted previously, was in keeping with expectancy based on the results of other investigators.

The fourth over-all analysis investigated the two types of admission procedures on length of stay, controlling for diagnostic sub-type and marital status. The invalidity of this variable has been noted elsewhere. For what it is worth, form of admission did not correlate with length of stay when the six diagnostic sub-types were held constant. A significant difference between certified and voluntary patients were obtained when marital status was controlled. The married patients who were committed to hospital by a court certificate, stayed a shorter period of time than did the married voluntary patients.

The fifth analysis investigated the environment of the patient in relation to length of stay, controlling for social class and age on admission. No significant difference between rural and urban patients was obtained when age on admission was controlled. A significant relationship between environment and duration of stay was obtained when social class was controlled. In Class A, more than two-thirds of the urban patients were discharged from hospital before twenty-four months. Selection on the basis of social class composition probably enhanced the urban admission group's

favorable discharge outlook, since sixty per cent of urban patients were found in the class A group.

The sixth, and final analysis of this study, investigated diagnostic sub-type in relation to length of hospital stay, controlling for social class, marital status, form of admission, and age on admission. In the analysis controlling for social class and form of admission, no significant differences were obtained in the six diagnostic sub-types on length of stay. In the analysis controlling for age on admission, the results seemed to indicate that paranoid patients, in the age category thirty to forty-nine, effected the best recovery rate.

The linkage between social class and the duration of hospitalization reported by Hollinghead and others, is confirmed by the findings of this study. The controlled case-study method enabled us to demonstrate that the relationship cannot readily be attributed to the influence of such factors as age on admission, marital status, diagnostic sub-type, or environment. When the variables were controlled, social class continued to be linked significantly with length of hospital stay. This suggested that social class, in itself, is a prognostic indicator of some importance. The reader should not infer that the variables under study may not be related to the etiology of schizophrenia. They may be, but

we were concerned here only with discovering if social class, as postulated in the hypotheses under examination, is significantly associated with duration of hospital stay. Furthermore, it should be pointed out, that although the results of this study are similar to results of other studies, this research and others, with the exception of Hollingshead's study, are not truly comparable, because in the present study the effect of all other relevant variables were controlled.

On the basis of the present findings, the following conclusions are drawn concerning the significance of the other variables in their relation to prognosis in schizophrenia. No prognostic worth could be attributed to such variables as: religion, family history of mental disease, number of previous admissions, ethnic background, and form of admission. The factor of age on admission would seem to have prognostic importance, only if it is considered in relation with marital status and the paranoid sub-type of schizophrenia. Similarly, environment would seem to have prognostic importance, only if it is considered in relation to social class. The variables which seem to be of some prognostic value are marital status and diagnostic sub-type. Specifically, the prognosis is most favourable when the patient is married, and is suffering from schizophrenia, paranoid

condition. These findings suggest the feasibility of making predictions of hospital discharge probabilities on the basis of relatively objective clinical and social factors.

To develop such an instrument, additional clinical and social variables would have to be included. Also, a more refined statistical analysis, than was used in the present study would have to be used, so that degrees of prognostic value for each variable could be ascertained.

CHAPTER VI

SUGGESTIONS FOR FURTHER RESEARCH

Our study, in trying to explain the data, advanced a number of explanatory hypotheses, none of which have been empirically demonstrated completely. Such empirical demonstration could well be the focus of future studies. Some of these unanswered questions are being set out here as suggestions for future research:

1. Can it be empirically demonstrated that lower class families are more likely to respond to hospitalization by a virtual abandonment of the patient, and does such behavior have serious consequences for outcome?

2. Do higher class patients receive discharges at lower levels of improvement than other patients, due to the adequacy of their personal and family financial resources?

3. Are there differences between upper and lower class patients in terms of time lapse between onset of illness and entry into treatment? Does a shorter time lapse between onset of illness and entry into treatment increase the probability of a shorter hospital stay?

4. Are lower class patients less favourably disposed toward psychotherapy than those from the

upper classes?

5. Is the therapeutic milieu of the hospital conducive to the early discharge of lower class patients?

6. Does the presence of a spouse in the community motivate the patient toward a more rapid recovery?

7. Do single patients, upon development of schizophrenia offer a reaction pattern more resistive to therapy than married patients?

8. Does selection of the basis of paranoid diagnosis account for the early discharge of married patients?

In conclusion, the general hypothesis that prolonged mental illness is inversely related to the class level of the patient, is confirmed in this study. Due to the exploratory nature of this study, however, the results and tentative conclusions offered, are subject to further research for confirmation. The author invites replication by other investigators.

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A P P E N D I C E S

APPENDIX A

Survey of Census Data

TABLE 1A

PRINCIPAL SOCIAL CLASS GROUPS AND THE PERCENTAGE OF CASES IN EACH GROUP

Social Class	Number	Per Cent
I	54	12
II	76	16
III	69	15
IV	81	18
V	91	20
VI	84	19
Total	455	100

TABLE 2A

PRINCIPAL DIAGNOSTIC GROUPS AND THE PERCENTAGE OF CASES IN EACH GROUP

Diagnosis	Number	Per Cent
Simple	20	4
Hebephrenic	20	4
Paranoid	167	37
Catatonic	49	11
Schizo-affective	44	10
Unspecified	155	34
Total	455	100

TABLE 3A

PERCENTAGE DISTRIBUTION OF PSYCHIATRIC CASES BY AGE GROUP

Age on Admission	Number	Per Cent
10 - 29	212	46
30 - 49	194	43
50 - 69	45	10
70 - 89	4	1
Total	455	100

TABLE 4A

PERCENTAGE DISTRIBUTION OF PATIENTS BY MARITAL STATUS

Marital Status	Number	Per Cent
Married	123	27
Widowed	13	4
Unmarried	280	61
Divorced	10	2
Separated	29	6
Total	455	100

TABLE 5A

PERCENTAGE DISTRIBUTION OF PATIENTS BY RELIGION

Religion	Number	Per Cent
Protestant	212	47
Catholic	175	38
Jewish	21	5
Other	47	10
Total	455	100

TABLE 6A

PERCENTAGE DISTRIBUTION OF PATIENTS BY ETHNIC BACKGROUND

Ethnic Background	Number	Per Cent
Foreign born	90	20
Native Born of Foreign Parentage	127	28
Native Born of Native Parentage	174	38
Native Born of Mixed Parentage	53	12
Unknown	11	2
Total	455	100

TABLE 7A

PERCENTAGE DISTRIBUTION OF PATIENTS BY FORM OF ADMISSION

Form of Admission	Number	Per Cent
Voluntary	141	31
Court Certificate	314	69
Total	455	100

TABLE 8A

PERCENTAGE DISTRIBUTION OF PATIENTS BY NUMBER OF PREVIOUS ADMISSIONS

Number of Previous Admissions	Number	Per Cent
No previous admissions	276	61
1-2	105	23
3-4	51	11
5-6	13	3
7-8	7	1
9-10	3	1
Total	455	100

TABLE, 9A

PERCENTAGE DISTRIBUTION OF PATIENTS BY FAMILY HISTORY OF MENTAL DISEASE

History of Mental Disease	Number	Per Cent
Mental Disease in Parents	33	7
Mental Disease in Grandparents	6	1
Mental Disease in Siblings	35	8
Mental Disease in Collaterals	27	6
No Family Mental Disease	307	68
Unknown	47	10
Total	455	100

TABLE 10A

PERCENTAGE DISTRIBUTION OF PATIENTS BY ENVIRONMENT

Environment	Number	Per Cent
Urban	275	60
Rural	180	40
Total	455	100

APPENDIX B

Tables Representing Relationships Between Length of Stay and Independent Variables

TABLE 1B

RELATIONSHIP BETWEEN LENGTH OF STAY AND SOCIAL CLASS

Social Class	Length of Hospitalization: Long Term	Short Term	Total
I	4	50	54
II	6	70	76
III	31	38	69
IV	46	35	81
V	66	25	91
VI	64	20	84
Total	217	238	455

$X^2 = 136.12$
$P = < .01$

TABLE 2B

RELATIONSHIP BETWEEN LENGTH OF STAY AND MARITAL STATUS

Marital Status	Length of Hospitalization: Long Term	Short Term	Total
Married	45	78	123
Unmarried	172	160	332
Total	217	238	455

$X^2 = 16.50$
$P = < .01$

TABLE 3B

RELATIONSHIP BETWEEN LENGTH OF STAY AND DIAGNOSTIC SUB-TYPE

Diagnostic Sub-Type	Length of Hospitalization		Total
	Long Term	Short Term	
Simple	13	7	20
Hebephrenic	16	4	20
Paranoid	70	97	167
Catatonic	29	20	49
Schizo-affective	16	28	44
Unspecified	73	82	155
Total	217	238	455

$X^2 = 17.88$
$P = < .01$

TABLE 4B

RELATIONSHIP BETWEEN LENGTH OF STAY AND FORM OF ADMISSION

Form of Admission	Length of Hospitalization		Total
	Long Term	Short Term	
Court Certificate	142	172	314
Voluntary	75	66	141
Total	217	238	455

$X^2 = 18.87$
$P = < .01$

TABLE 5B

RELATIONSHIP BETWEEN LENGTH OF STAY AND ENVIRONMENT

Environment	Length of Hospitalization		Total
	Long Term	Short Term	
Rural	104	76	180
Urban	113	162	275
Total	217	238	455

$X^2 = 12.14$
$P = < .01$

TABLE 6B

RELATIONSHIP BETWEEN LENGTH OF STAY AND AGE ON ADMISSION

Age on Admission	Length of Hospitalization		Total
	Long Term	Short Term	
10 - 29	100	112	212
30 - 49	87	107	194
50 - 69	26	19	45
70 - 89	4	0	4
Total	217	238	455

$X^2 = 24.63$
$P = < .01$

TABLE 7B

RELATIONSHIP BETWEEN LENGTH OF STAY AND RELIGION

Religion	Length of Hospitalization		Total
	Long Term	Short Term	
Protestant	82	130	212
Catholic	93	82	175
Jewish	15	6	21
Other	27	20	47
Total	217	238	455

$X^2 = 12.21$
$P = > .01$

TABLE 8B

RELATIONSHIP BETWEEN FAMILY HISTORY OF MENTAL DISEASE AND LENGTH OF STAY

Family History of Mental Disease	Length of Hospitalization		Total
	Long Term	Short Term	
Mental disease in parents	16	17	33
Mental disease in grandparents	2	4	6
Mental disease in siblings	18	17	35
Mental disease in collaterals	12	15	27
No mental disease in family	138	169	307
Unknown	31	16	47
Total	217	238	455

$X^2 = 8.02$
$P = > .01$

TABLE 9B

RELATIONSHIP BETWEEN LENGTH OF STAY AND ETHNIC BACKGROUND

Ethnic Background	Length of Hospitalization: Long Term	Short Term	Total
Foreign Born	46	44	90
Native Born of Foreign Parentage	62	65	127
Native Born of Native Parentage	86	88	174
Native Born of Mixed Parentage	15	38	53
Unknown	8	3	11
Total	217	238	455

$X^2 = 11.44$
$P = > .01$

TABLE 10B

RELATIONSHIP BETWEEN LENGTH OF STAY AND NUMBER OF PREVIOUS ADMISSIONS

Number of Previous Admissions	Length of Hospitalization: Long Term	Short Term	Total
No previous admissions	110	166	276
1 - 2	57	48	105
3 - 4	34	17	51
5 - 6	9	5	14
7 - 8	5	1	6
9 -10	2	1	3
Total	217	238	455

$X^2 = 12.52$
$P = > .01$

APPENDIX C

Tables Representing the Analysis Testing For Inter-relationships Between Significant Independent Variables

TABLE 1C

RELATIONSHIP BETWEEN SOCIAL CLASS AND ENVIRONMENT

Social Class	Environment: Urban	Rural	Total
I	44	10	51
II	54	22	78
III	48	21	70
IV	50	31	81
V	40	51	91
VI	39	45	84
Total	275	180	455

$X^2 = 32.66$
$P = < .01$

TABLE 2C

RELATIONSHIP BETWEEN SOCIAL CLASS AND DIAGNOSTIC SUB-TYPE

Social Class	Diagnostic Sub-Types: Simple	Heb.	Par.	Cat.	S.Aff.	Unspec.	Total
I	2	3	20	6	11	12	54
II	2	0	35	6	8	25	76
III	4	2	24	4	9	26	69
IV	2	3	36	10	3	27	81
V	8	4	28	9	12	30	91
VI	2	8	24	14	1	35	84
Total	20	20	167	49	44	155	455

$X^2 = 51.18$
$P = < .01$

TABLE 3C

RELATIONSHIP BETWEEN SOCIAL CLASS AND MARITAL STATUS

Social Class	Marital Status: Married	Unmarried	Total
I	19	35	54
II	17	59	76
III	29	40	69
IV	19	62	81
V	24	67	91
VI	15	69	84
Total	123	332	455

$X^2 = 37.70$
$P = < .01$

TABLE 4C

RELATIONSHIP BETWEEN SOCIAL CLASS AND AGE ON ADMISSION

Social Class	Age on Admission: 10 - 29	30 - 49	50 - 69	70 - 89	Total
I	25	25	4	0	54
II	33	33	10	0	76
III	41	25	3	0	69
IV	38	37	6	0	81
V	43	35	10	3	91
VI	32	39	12	1	84
Total	212	194	45	4	455

$X^2 = 90.35$
$P = < .01$

TABLE 5C

RELATIONSHIP BETWEEN SOCIAL CLASS AND FORM OF ADMISSION

	Form of Admission		
Social Class	Voluntary	Court Certificate	Total
I	15	39	54
II	22	54	76
III	25	44	69
IV	23	58	81
V	33	58	91
VI	23	61	84
Total	141	314	455

$X^2 = 4.58$
$P = > .01$

TABLE 6C

RELATIONSHIP BETWEEN DIAGNOSTIC SUB-TYPE AND MARITAL STATUS

	Marital Status		
Diagnostic Sub-Type	Married	Unmarried	Total
Simple	3	17	20
Hebephrenic	12	8	20
Paranoid	63	104	167
Catatonic	7	42	49
Schizo-affective	18	26	44
Unspecified	20	135	155
Total	123	332	455

$X^2 = 120.54$
$P = < .01$

TABLE 7C

RELATIONSHIP BETWEEN DIAGNOSTIC SUB-TYPE AND FORM OF ADMISSION

Diagnostic Sub-Type	Form of Admission: Voluntary	Court Certificate	Total
Simple	13	7	20
Hebephrenic	13	7	20
Paranoid	32	135	167
Catatonic	13	36	49
Schizo-affective	23	21	44
Unspecified	47	108	155
Total	141	314	455

$X^2 = 41.87$
$P = < .01$

TABLE 8C

RELATIONSHIP BETWEEN DIAGNOSTIC SUB-TYPE AND AGE ON ADMISSION

Diagnostic Sub-Type	Age on Admission: 10-29	30-49	50-69	70-89	Total
Simple	9	6	3	2	20
Hebephrenic	5	11	4	0	20
Paranoid	45	95	25	2	167
Catatonic	31	14	4	0	49
Schizo-affective	24	18	2	0	44
Unspecified	98	50	7	0	155
Total	212	194	45	4	455

$X^2 = 177.0$
$P = < .01$

TABLE 9C

RELATIONSHIP BETWEEN DIAGNOSTIC SUB-TYPE AND ENVIRONMENT

Diagnostic Sub-Type	Environment		
	Urban	Rural	Total
Simple	13	7	20
Hebephrenic	8	12	20
Paranoid	105	62	167
Catatonic	25	24	49
Schizo-affective	31	13	44
Unspecified	93	62	155
Total	275	180	455

$X^2 = 7.75$
$P = > .01$

TABLE 10C

RELATIONSHIP BETWEEN MARITAL STATUS AND AGE ON ADMISSION

Marital Status	Age on Admission				
	10-29	30-49	50-69	70-89	Total
Married	30	77	16	0	123
Unmarried	182	117	29	4	332
Total	212	194	45	4	455

$X^2 = 162.05$
$P = < .01$

TABLE 11C

RELATIONSHIP BETWEEN MARITAL STATUS AND FORM OF ADMISSION

Marital Status	Form of Admission: Voluntary	Court Certificate	Total
Married	48	75	123
Unmarried	93	239	332
Total	141	314	455

$X^2 = 16.44$
$P = < .01$

TABLE 12C

RELATIONSHIP BETWEEN MARITAL STATUS AND ENVIRONMENT

Marital Status	Environment: Urban	Rural	Total
Married	72	51	123
Unmarried	203	129	332
Total	275	180	455

$X^2 = 4.16$
$P = > .01$

TABLE 13C

RELATIONSHIP BETWEEN AGE ON ADMISSION AND ENVIRONMENT

Age on Admission	Environment		
	Urban	Rural	Total
10 - 29	148	64	212
30 - 49	97	97	194
50 - 69	27	18	45
70 - 89	3	1	4
Total	275	180	455

$X^2 = 21.64$
$P = < .01$

TABLE 14C

RELATIONSHIP BETWEEN AGE ON ADMISSION AND FORM OF ADMISSION

Age on Admission	Form of Admission		
	Voluntary	Court Certificate	Total
10 - 29	68	144	212
30 - 49	57	137	194
50 - 69	15	30	45
70 - 89	1	3	4
Total	141	314	455

$X^2 = 11.64$
$P = > .01$

TABLE 15C

RELATIONSHIP BETWEEN FORM OF ADMISSION AND ENVIRONMENT

	Environment		
Form of Admission	Urban	Rural	Total
Voluntary	163	112	275
Court Certificate	112	68	180
Total	275	180	455

$X^2 = 4.61$

$P = > .01$

APPENDIX D

TABLE 1D

COMPARISON OF PATIENTS IN THE VARIOUS AGE GROUPS ON LENGTH OF STAY, WITH MARITAL STATUS HELD CONSTANT

	Married		Unmarried	
Age on Admission	L.	S.	L.	S.
10 - 29	12	18	88	94
30 - 49	25	52	62	55
50 - 69	7	9	19	10
Total	44	79	169	159
X^2 =	1.04		3.00	
P =	$>.01$		$>.01$	

TABLE 2D

COMPARISON OF PATIENTS IN THE VARIOUS AGE GROUPS ON LENGTH OF STAY, WITH DIAGNOSTIC SUB-TYPE HELD CONSTANT

Age on Admission	Diagnostic Sub-Type: Simple L.	Simple S.	Heb. L.	Heb. S.	Par. L.	Par. S.	Catatonic L.	Catatonic S.	Schizo-aff. L.	Schizo-aff. S.	Unspecified L.	Unspecified S.
10 - 29	5	4	4	1	19	26	18	13	12	12	42	56
30 - 49	3	3	9	2	37	58	9	5	2	14	27	25
50 - 69	3	0	3	0	12	13	2	2	2	2	4	2
Total	11	7	16	3	68	97	29	20	16	28	73	83
X^2 =	2.33		.67		.69		.30		6.18		2.11	
P =	> .01		> .01		> .01		> .01		> .01		> .01	

TABLE 3D

COMPARISON OF PATIENTS IN THE VARIOUS AGE GROUPS ON LENGTH OF STAY, WITH SOCIAL CLASS HELD CONSTANT

Age Groups	Social Class			
	Class A		Class B	
	L.	S.	L.	S.
10 - 29	33	76	67	36
30 - 49	13	69	74	38
50 - 69	3	13	23	6
Total	49	158	164	80
X^2 =	5.61		2.21	
P =	>.01		>.01	

TABLE 4D

COMPARISON OF PATIENTS IN THE VARIOUS AGE GROUPS ON LENGTH OF STAY, WITH ENVIRONMENT HELD CONSTANT

Age Groups	Environment			
	Rural		Urban	
	L.	S.	L.	S.
10 - 29	57	77	43	35
30 - 49	42	73	45	34
50 - 69	13	12	13	7
Total	112	162	101	76
X^2 =	2.33		.63	
P =	>.01		>.01	

TABLE 5D

COMPARISON OF PATIENTS IN THE VARIOUS DIAGNOSTIC GROUPS ON LENGTH OF STAY, WITH SOCIAL CLASS HELD CONSTANT

Diagnostic Sub-type	Social Class			
	Class A		Class B	
	L.	S.	L.	S.
Simple	3	4	10	3
Hebephrenic	3	2	13	2
Paranoid	14	65	56	32
Catatonic	6	10	23	10
Schizo-affective	3	25	13	3
Unspecified	12	52	61	30
Total	41	158	176	80
X^2 =	2.33		.63	
P =	$>.01$		$>.01$	

TABLE 6D

COMPARISON OF PATIENTS IN THE VARIOUS DIAGNOSTIC GROUPS ON LENGTH OF STAY, WITH FORM OF ADMISSION HELD CONSTANT

Diagnostic Sub-type	Form of Admission			
	Voluntary		Court Certificate	
	L.	S.	L.	S.
Simple	9	3	4	4
Hebephrenic	11	2	5	2
Paranoid	15	17	55	80
Catatonic	10	3	19	17
Schizo-affective	9	14	7	14
Unspecified	21	27	52	55
Total	75	66	142	172
X^2 =	14.44		5.62	
P =	$>.01$		$>.01$	

APPENDIX E

S C H E D U L E F O R M

File Number(s)_____

1. Code Number_____

2. Name_____

3. Occupation_____

   Weight Assigned_____

4. Education: (1) College (4) 8th grade
   (2) 12th grade (5) 7th grade
   (3) 9-11 grades (6) 7 - below
   (7) Unknown

5. Social Class Index Score_____CLASS_____

6. Number of previous admissions_____

   Date of first admission_____

   Date of transfer to other institution_____

   Date of death_____

   Date of elopement after admission_____

7. Number of subsequent admissions_____

8. Total duration of hospitalization (in months)

   _____

9. Short Term_____(under 24 months)

   Long Term_____(over 24 months)

10. Age: (1) 10 - 25 (3) 50 - 65
    (2) 26 - 49 (4) 66 - 80

11. Diagnostic Sub-type:
    (1) Simple (4) Catatonic
    (2) Hebephrenic (5) Schizo-affective
    (3) Paranoid (6) Unspecified

12. Marital Status:

(1) Married	(4) Unmarried
(2) Common-law	(5) Divorced
(3) Widowed	(6) Separated

13. Religion:

(1) Protestant	(3) Jewish
(2) Catholic	(4) Other

(5) Unknown

14. Ethnic Background: (1) Foreign born
(2) Native born of foreign parentage
(3) Native born of native parentage
(4) Native born of mixed parentage
(5) Unknown

15. Form of Admission: (1) Voluntary
(2) Court Certificate

16. Family history of Mental Disease:

(1) Mental disease in parents
(2) Mental disease in grandparents
(3) Mental disease in siblings
(4) Mental disease in collaterals
(5) No family mental disease
(6) Unknown

17. Environment (1) Rural (2) Urban