THE RELATIONSHIP OF CHANGE IN DRINKING BEHAVIOUR
TO CHANGE IN OTHER AREAS OF BEHAVIOUR
IN A SAMPLE OF ALCOHOLIC PATIENTS

by

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We accept this thesis as conforming to the
required standard

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April, 1964
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ABSTRACT

The Alcoholism Foundation of British Columbia bases its treatment programme on the belief that the abnormal drinking behavior of an alcoholic is importantly related to his functioning in other aspects of life. The research reported here is an attempt to establish empirically whether in fact a relationship exists between change in drinking behavior and change in other behavior of a sample of alcoholic patients.

The data were gathered as part of a project designed to evaluate the effectiveness of the treatment programme of the Alcoholism Foundation. This project involved the interviewing of a sample of persons who had once visited the Foundation, one group of which had continued in treatment and one group of which had not continued beyond initial interviews, in order to compare the pre- and post-treatment behavior of these two groups. It was found that there was a greater percentage of persons improved in the treatment group, and a portion of this improvement was attributed to treatment at the Foundation. It was also found that "treatment" received from Alcoholics Anonymous accounted in part for the difference seen.

A number of indices of change in various areas of life (health, work, family responsibility, financial responsibility, and leisure
time activities) were cross-tabulated with an index of change in drinking behaviour, and it was found that improvement in drinking behaviour tended to be associated with improvement in other areas of behaviour. Experimental and control groups were then compared to ascertain whether treatment had a discernable effect on this relationship, and it was found that treatment at the Foundation increased the likelihood of changes in drinking behaviour being accompanied by corresponding changes in other areas of behaviour. It was also shown that "treatment" received from Alcoholics Anonymous had a similar effect on the relationship.
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CHAPTER I

THE PROBLEM DEFINED

I. Introduction

Two important emphases, which are relevant to the subject of this thesis, can be discerned in current thinking in the behavioural sciences about the functioning of the human individual. First, there seems to be considerable agreement in the body of psychological theory that one cannot reach an adequate and comprehensive understanding of human behaviour by considering personality as an agglomeration of segmented parts or functions, or by viewing behaviour as a series of relatively unrelated acts. For instance, Hall and Lindzey in evaluating the state of knowledge about the personality, state that:

. . . most contemporary personality theorists may be accurately classed as organismic. As a group they emphasize the importance of considering the individual as a total, functioning unit. Thus Allport, Angyal, Goldstein, Murphy, Murray, Rogers, and Sheldon all stress the fact that an element of behavior is not to be understood when studied in isolation from the remainder of the functioning person including his biological makeup.

Gestalt psychology and field theory (as initiated by Kurt Lewin) have been particularly strong in their insistence on this approach. According to many psychologists, then, we do in fact function as "whole persons"; the defence mechanism known as "isolation" or "compartmentalization" is quite restricted in its effectiveness. That is, there
is a definite limit to the extent to which a man can act differently in different situations; his behaviour in one area of life will affect in some way his functioning in other aspects of experience, although the relationship in many cases may be rather complex in nature. In sociological terms, complete segregation of role performance in various spheres of life is difficult, if not impossible. The phenomenon of "role conflict" attests to this, when the behaviour demanded of an individual in one context is inconsistent with that required in another context. Or, appropriate role performance in one sphere may be contingent on adequate performance in another; for instance, a family man's obligations to his family in his role as husband and father require a certain level of performance in the economic sphere.

The second important emphasis in the behavioural sciences relevant here is the recognition of the interrelationship of the individual and his environment, both social and non-social. Indeed, some theorists see this as more than an interrelationship: they believe that one cannot really draw a line separating the person and his surroundings, for they feel a human being is best regarded as "open system". Lewin and his followers, with their emphasis on the "life-space" exemplify this. As a result of such thinking, the borderlines between general medicine, psychiatry, psychology, sociology, and anthropology have become blurred or even largely eradicated, and have been less zealously defended as battlelines. As part of this trend, new fields of study have been delimited combining aspects of the older disciplines--
such fields as social psychology, social psychiatry, the sociology of medicine, and the sociology of mental health have newly become recognized as legitimate fields of enquiry. Thus the physical, psychological, social, and cultural aspects of human existence are increasingly being considered together.

This emphasis is taken to be equally important in the study of "normal" functioning (or health) and of "abnormal" functioning (or illness). Simmons and Wolff, in a study of the role of social science in medicine, present a good discussion of this topic, from which the following excerpt is taken:

If it is granted that physical, social, and cultural factors combine to make man a whole person, it is equally imperative to consider their potential and related effects in his undoing, whether this takes place through illness, accidents, or other ill-fated happenings. . . . the three factors . . . may be viewed simultaneously as both source and consequence of human distress.³

Since the phenomenon of alcoholism is often regarded as an "illness," it can provide a useful concrete example for a study of the interrelationship of areas of human behaviour, both within the person himself, and in relation to his environment. This thesis is an attempt to explore the holistic nature of the behaviour of an individual in his environment, by looking at an instance of "abnormal" functioning, the illness of alcoholism.
II. The Rehabilitation of Alcoholics

There are many differing definitions of alcoholism, but a common feature to many of them is the incorporation of other factors than drinking behaviour. For instance, the World Health Organization defines the alcoholic as follows:

Alcoholics are those excessive drinkers whose dependence on alcohol has attained such a degree that it shows a noticeable mental disturbance or an interference with their bodily and mental health, their inter-personal relations, and their smooth social and economic functioning; ... 5

Thus disturbance in other areas of functioning is looked upon as the mark of excessive dependence upon alcohol; alcoholism is regarded as a "socio-psychosomatic illness." 6

The philosophy of treatment for alcoholism is founded upon such a basic outlook. The term "rehabilitation" is used to refer to the induction of certain desired changes in behaviour, and involves changes not only in drinking behaviour, but in health, work performance, social relationships, and so forth. One therapist describes his approach to the alcoholic as follows:

In forming my own judgment of any individual, I never envisage primarily the alcoholic or problem-drinker. I envisage rather the whole man as a dynamic entity, that is, his mental, physical, and emotional set-up as determined by the interacting forces of constitution and environment. I take full consideration, therefore, of his history, his family, the scope of his work and recreation, his general social background; in other words, his total situation, as Kurt Lewin, the distinguished Gestalt psychologist, so aptly employs that term. 7

Another therapist describes his treatment goals in this way:
It is necessary to recognize that sobriety is no more than a partial goal and can be maintained only if there is change and improvement in other areas of the patient's life.

In both cases, the basic assumption of these therapists is that treatment must involve the whole individual in relation to his environment.

The organization studied in the research to be reported below, The Alcoholism Foundation of British Columbia, subscribes to this philosophy of treatment, and its treatment programme is directed toward effecting "desirable" changes in several aspects of the alcoholic's life. The sequence of treatment at the Alcoholism Foundation involves first an attempt to help the patient to stop drinking, and then an attempt to help him cope more adequately with his total life situation. It is this attention to other aspects of life than drinking which is believed to increase the patient's chances of maintaining sobriety for an extended time, by reducing environment strain. The goal for the patient is a "comfortable sobriety." Such treatment constitutes what Robert F. Bales referred to, in a different connection, as "social therapy for a social disorder."

The aims of the Foundation's treatment programme in effecting rehabilitation in several areas of the patient's life are detailed in the following statement received from one of the Foundation's senior treatment officials.

In order to understand the impact of alcoholism upon the individual and his eventual rehabilitation, we must first look at the nature of this addiction and the forces at work within the individual that nudge him in the direction of alcohol for relief. It is
generally conceded that the alcoholic seeks relief from internal stresses both bred and fed by his poor adaptation to environmental demands. Alcohol pampers and cushions the individual from painful realities, and creates a false sense of well-being. In such a state of relative comfort, the need for social interaction; for goal-setting; and for self-exploitation seems less immediate. This leads to a gradual deterioration in performance across most of the functional areas, and eventually serious socio-economic impoverishment.

Rehabilitation has, then, a broad front of maladjustment to neutralize. The individual must be helped to regain his social standing through counselling aimed at improving attitudes and encouraging constructive relationships. He must also seek direction or re-direction into a vocational field that exploits his talents and provides opportunities for self-expression. Therapy must reach into the domestic sphere and attempt, through interpretation of the illness, to bring about a more wholesome approach to the problem. Resentments engendered by the drinking behaviour must be aired and steps taken to promote more harmonious relationships. The need for continuing personal appraisal and self-improvement is continuous, and may require years to achieve.

The specific aim of the present study is to establish empirically whether or not a relationship exists between drinking behaviour and behaviour in other areas of life, and, if so, what is the precise nature of that relationship. An attempt will be made to determine which areas are more directly interconnected than others and in which areas change can be more easily and quickly effected. Further, the role of treatment in effecting changes in various areas will be examined. Thus the hypotheses to be proposed could be regarded as partial tests of one of the important assumptions underlying the programme of the Alcoholism Foundation.
III. **Hypotheses and Rationale**

Looking at the drinking behaviour and the other behaviour of an alcoholic from a theoretical standpoint, there seems to be a two-sided relationship, where disturbed functioning in other areas of life can be both cause and effect of abnormal drinking.

1. One theory of abnormal drinking sees it as a mechanism of tension reduction, that is, as a means of coping with some form of psychological stress.

Some authorities define alcoholism in one way and some in another. Whatever definition or index of the condition one uses--physical or mental impairment, inability to work, trouble in relations with family or friends--an essential part of alcoholism is that the individual has become a compulsive drinker in order to quell certain inner tensions.¹²

Such stress can, of course, arise from a definable physical or psychological illness with various causes, but can often be (at least in part) a result of environmental strain. Often at least the incipient cause of a developing drinking problem is an unfaithful wife, a business misfortune, or the like.

To a certain extent these factors are beyond a person's immediate control, of course, but more commonly, the more significant factor is the person's own failure to cope with the problems of his environment. For example, the marital problems which have "driven a man to drink" are often substantially a result of his own inadequacy in dealing with some of the inevitable difficulties that beset a marriage.
Therefore, to the extent that such factors are important partial causes of pathological drinking, then any gains which the patient can make in learning to cope more adequately with problems in these other areas will be helpful in reinforcing sobriety.

2. On the other side of the coin, it is clear that a man cannot drink excessively for any period of time without his functioning in other areas of life being adversely affected. In this case, difficulties in other areas of behaviour are a result, rather than a cause of abnormal drinking. To the extent that damage is reparable, an improvement in drinking behaviour increases the likelihood of an improvement in other behaviour.

In any individual case, either or both sides of the relationship could be involved. This two-sided rationale gives rise to Hypothesis I.

Hypothesis I: There will be a direct mutual relationship between change in drinking behaviour and change in other areas of behaviour (health, work, family relationships, and social activities), in the total sample of alcoholics studied.

a) As drinking behaviour improves (severity of problem decreases), behaviour in other areas will also improve.

b) If drinking behaviour does not improve (remains the same or worsens), other behaviour will also not improve.

The evaluation study of the Foundation's treatment programme, on which the present research is based, indicated that a considerable number of alcoholics improved both in drinking and in other areas of life without receiving treatment from the Foundation. In some cases, the
improvement could have been a result of treatment received from Alcoholics Anonymous, but many had no such treatment, and the causes of improvement were unknown. It might be supposed, however, that the association between changes in drinking behaviour and in other areas of behaviour would be greatest in those cases where the individuals had undergone treatment designed to secure both sorts of change. For instance, in the case of "spontaneous" improvement (change effected by the individual himself), the individual might be aware of his need to stop drinking, but not be aware of his need to learn to cope more adequately with problems in other areas of life. He would be, therefore, less likely (to the extent that conscious awareness is a factor) to bring about improvement in the rest of his behaviour corresponding to his improvement with regard to drinking. Therefore, the second hypothesis is as follows:

Hypothesis II: The relationship between change in drinking behaviour and change in other areas of behaviour is more likely to be present in those persons who have had treatment at the Foundation (experimental group) than in those persons who have not had such treatment (control group).

IV. Additional Analysis of the Data

The data which led to the formulation of the above hypotheses also suggest that the degree of association between drinking and other behaviour is likely to differ depending on the specific area involved. It
would perhaps have been possible to have constructed a set of sub-hypotheses covering each area of behaviour and to have attempted to predict the relative degrees of association. However, consideration of the multiplicity of factors which would have to be taken into account in constructing such hypotheses, led to the conclusion that the rationales necessary would be quite involved and probably rather tenuous. The decision was made, therefore, simply to observe these relationships, and then to attempt some speculative *ex post facto* explanation and formulation of further hypotheses for future study.

V. **Previous Research**

The use of other criteria than change in drinking behaviour to assess the degree of improvement in alcoholics after treatment is not unique to this study. It is claimed, however, that the methods used here represent an improvement in some respects over previous work, enabling the tentative answering of some questions not answered heretofore.

A retrospective follow-up study, conducted by the Division of Alcoholic Rehabilitation, State of California Department of Public Health, found that there were improvements in certain aspects of health, improvements in social relationships, and a decrease in the amount of absenteeism from work, in the sample of ex-patients surveyed, which paralleled improvement in drinking behaviour. Only in the case of
drinking behaviour and health, however, were changes in each area tabulated against each other. A similar study, conducted by the Connecticut Commission on Alcoholism, found relationships between status at the time of follow-up interview with regard to drinking and status with regard to health, work performance, family relationships, and social participation. This study did not measure change between time of intake and time of follow-up, however, except in regard to employment status (employed/unemployed).

Schmidt, analysing data obtained from a follow-up study undertaken by the Alcoholism Research Foundation of Ontario, correlated change in drinking behaviour and change in social participation, and found definite relationships between drinking and domestic quarrelling, family arrangements, child-care participation, and leisure pursuits. Jackson did a further analysis of the same data pertaining to the alcoholic father's participation in child-care activities, and again found a relationship.

Finally, a recent report on a large scale evaluation of the effect of alcoholism treatment, undertaken by the North American Association of Alcoholism Programs, indicates the preliminary finding that there is a relation between improvement in drinking and improvement in health, social stability, interpersonal relations, work adjustment, and employment status.

The present study proposes to analyse the relationship between
change in drinking behaviour and change in the areas of health, work, family relationships, financial responsibility, and leisure time activities, by cross-tabulating indices of change in a similar manner to several of the above studies, but using somewhat different techniques. It also proposes to study the possible differential effect produced by treatment on the hypothesized relationship, by using a control group, which was used in none of the above studies.

VI. Summary

It has been shown that there is a strong emphasis in current thinking in the behavioural sciences on the holistic nature of human behaviour, and on the importance of considering the individual in relation to his environment, both social and non-social. This belief is also emphasized in theories about the nature of alcoholism, regarded as an instance of human malfunctioning. Many alcoholism treatment programmes, including the Alcoholism Foundation of British Columbia, subscribe to this philosophy, and therefore direct their treatment to modifying the alcoholic's behaviour in many aspects other than in drinking.

This thesis is an attempt to test this assumption as held by the Alcoholism Foundation of British Columbia, by examining whether or not changes in drinking behaviour are related to changes in other areas of behaviour. Further, the possible differential effect of treatment on
this relationship will be examined. It is hypothesized that there will be a direct mutual relationship between change in drinking behaviour and change in other areas of behaviour, and that this relationship will be more likely to be present in those who have had treatment from the Foundation than in those who have not had such treatment.
FOOTNOTES: Chapter I


2. Ibid., pp. 206-256.


11. Personal Communication received from Mr. S. E. Kerslake, Senior Counsellor, The Alcoholism Foundation of British Columbia, March 1964.

13 Some 42% of those who did not have treatment from the Foundation were regarded as having shown some degree of overall improvement. See Reginald A. H. Robson, Ingeborg Paulus, and G. Grant Clarke, An Evaluation of the Effect of Treatment on the Rehabilitation of Alcoholics (Vancouver: The Alcoholism Foundation of British Columbia, 1963), p. 120.


CHAPTER II

RESEARCH PROCEDURES

I. Purpose of The Research Project

The data for the present study were obtained from a research project undertaken for The Alcoholism Foundation of British Columbia by Dr. R.A.H. Robson, assisted by Miss I. Paulus and the present writer. At the time this research was undertaken, the Alcoholism Foundation had been engaged in treating alcoholics for seven years, and had seen a total of 5,310 patients during that time. Statistics indicated that as of April 1962, there had been 42,365 therapeutic interviews, 3,834 medical examinations, 9,706 medical treatments, 470 psychiatric consultations, and 2,054 group meetings. In the spring of 1963, the Board of Directors of the Foundation decided that a systematic study should be undertaken to determine the effectiveness of this treatment programme which had been in operation for seven years. They, therefore, directed the establishment of a research project officially defined as "an evaluation of the effectiveness of the treatment offered by the Alcoholism Foundation in rehabilitating those who seek its help in overcoming problems arising from the excessive consumption of alcohol."¹

As soon as the purpose of the research was established, a
search of the literature of alcoholism treatment was undertaken, in order to benefit from the experience of others who had undertaken similar research. There were a number of reports of follow-up studies in clinical settings, but all such studies found suffered from one basic inadequacy of design; none had used a control group of untreated alcoholics with which to compare those treated. This is a serious methodological inadequacy; it is not sufficient to simply compare the behaviour of a patient before and after treatment. One cannot legitimately infer that any changes seen are the result of the treatment which the patient has undergone, since they could have occurred in the absence of treatment. The authors of one or two reports examined pointed out that they realized this weakness in design, but felt that the difficulties in selecting an adequate control group and in locating persons who had not undergone treatment precluded the use of a control group. The present investigators, however, considered the lack of a control group so serious a flaw in research design that it would not be worth undertaking an evaluation study without one. It was, therefore, established as a fundamental requirement of the study that it should employ a control group of "untreated" alcoholics.

II. Research Design

Experimental and control groups

An adequate design would basically involve the selection of two groups of persons with drinking problems, one of which had received
treatment from the Foundation while the other had not, and the comparison of the extent of rehabilitation in these two groups. This would be done by establishing the degree of change in certain behavioural patterns during a comparable period of time. This may be represented diagrammatically as follows:

\[
\begin{align*}
\text{Experimental Group} &= \text{Treatment} \\
\text{Control Group} &= \text{No Treatment}
\end{align*}
\]

\text{compared with respect to rehabilitation at} \ T_1 \text{ and } T_2

An ideal way to implement this design would be to select patients at the time they first approached the treatment agency, and to randomly assign them to two groups, one of which would receive treatment and one of which would not. At this time, data would be gathered to indicate their status with regard to those areas of behaviour considered relevant. After a period of time deemed sufficient for changes to take place, members of each group would be reinterviewed to ascertain the degree of change which had taken place. Such a design, however, was clearly not possible under the policy of the Alcoholism Foundation, which is to refuse treatment to no one who sincerely desires help. A compromise was therefore necessary.
First of all, the time available for completion of the research project precluded the use of a prospective design, which would gather information at one time, and then gather similar information at a later time, in order to ascertain change. A retrospective design was therefore selected, which would involve securing information at a follow-up interview with respect to behaviour both at the time of approaching the Foundation, and at the time of the interview.

Since it is not possible to refuse treatment to any persons seeking help from the Foundation, it was necessary to rather choose for the control group persons who had visited the Foundation at one time or another, but who had themselves decided not to carry on with treatment. Such a control group was felt to be more appropriate than a random sample of untreated alcoholics from the general population, since those persons approaching the Foundation could not be considered to be necessarily representative of the wider population of alcoholics, and the aim of this project was to evaluate the work of the Foundation Clinic in helping those sorts of persons who actually do approach such a clinic for help.

The experimental and control groups were defined as follows:

1. Experimental group: Those persons who had undergone at least five treatment sessions.

2. Control group: Those persons who had undergone not more than four treatment sessions.
It should be pointed out that the maximum of four "treatment sessions" in the control group does not represent as many as four visits to the clinic; persons in the initial stages of treatment usually see a counsellor and a doctor during each visit, and each of these interviews is defined as a "treatment session." Thus the members of the control group would have only visited the clinic once or twice, and it was therefore considered legitimate to regard these persons as having had "no treatment" for the purposes of this study.\(^6\)

In addition, the members of the experimental and control groups were required to have first visited the Foundation during a three-year period from January 1, 1959 to January 31, 1961. Since the follow-up interviewing was conducted between November, 1962 and February, 1963, the period of time elapsed since the initial visit to the Foundation was between approximately nine months and three years, nine months. This length of time was deemed sufficient to establish whether or not any lasting changes had taken place in the individual's behaviour.

**Control factors**

The second important feature of the research design was to ensure the similarity of the experimental and control groups in all significant respects, so that any differences in rehabilitation between the two groups could be legitimately inferred to be the result of treatment rather than the result of some other difference. A list of factors
which could conceivably affect rehabilitation was therefore compiled; this list made use of both the literature in the field and the investigators' speculation. The factors to be controlled are as follows:

1. Sex
2. Age
3. Marital status
4. Occupation
5. Employment status
6. Education
7. Religion
8. Time elapsed since intake
9. Motivation for rehabilitation
10. Severity of drinking problem
11. Treatment other than at the Foundation

Ideally, it would have been preferable to have matched individuals on all eleven factors simultaneously, but because information was lacking for many patients at the time the two groups were selected, this was not possible. Simultaneous matching was carried out, however, on five factors: age, marital status, occupation, employment status, and time elapsed since intake. In addition, the factor of sex was controlled by using only male patients; only 10 percent of the clinic population are female, and such a small number would not allow separate conclusions for these patients.
The factor of education was not used for matching, since it was found to be closely related to occupation. Religion was also not used for matching, because about 75 percent of the clinic patients indicated that they were "non-practicing" and it therefore seemed not to be a relevant variable. After the matching of individuals, however, a check was made on the distribution of the experimental and control groups with regard to these factors of education and religion, and they were found to be very similar.

There was not sufficient information in the Foundation's files to permit the use of the remaining three factors (motivation, severity of drinking problem, and other treatment) in the matching process. Information was, therefore, collected during the interview in order to check the similarity of the two groups with regard to these characteristics.

Using the above procedure, 200 subjects were selected, 100 in each of the experimental and control groups.

In order to see whether the two groups selected were representative of the patients who come to the Foundation clinic, they were compared with all of the patients who visited the Foundation in 1960. The characteristics for which information was available for the 1960 intake were age, occupation, and employment status; and it was found that the distributions of these characteristics for the interview sample were similar to the Foundation intake. (See Table 12 of APPENDIX A).
Interview schedule

Because the results to be obtained would depend very much on how carefully the questions were designed, a considerable proportion of the time allotted for the research project was devoted to the development of the interview schedule. A number of schedules used in previous follow-up studies were consulted, and the advantages and disadvantages of various measures were weighed. The schedule went through four complete drafts and numerous minor revisions. At several steps along the way, pretesting was carried out in order to see how the questions would work out in practice. When the areas to be covered and the questions to be asked had been established, pre-coded response categories for IBM key-punching were added. 7

The interview schedule was designed to secure three types of data:

1. Information concerning the control factors upon which the experimental and control groups were desired to be similar.

2. Miscellaneous information which was of interest to the Foundation.

3. Information concerning the extent of rehabilitation that had occurred (these questions comprised the major part of the interview schedule).

A copy of the interview schedule is included as Appendix B of
this report; a key has also been added which indicates the numbers of the questions which refer to each of the three classes of information mentioned above.

1. Control Factors

It will be recalled that the Foundation files did not include adequate information regarding three of the control factors. Furthermore, it was suspected that with respect to the social background characteristics of the subjects, the information found in the Foundation files might not always be reliable. Because of this, it was decided to secure data from respondents with regard to all eleven control factors, in order to ensure the similarity of experimental and control groups.

2. Miscellaneous Information

This information is not relevant to the present study, and therefore will not be discussed here.

3. Indices of Rehabilitation

Definitions of "rehabilitation" usually include terms like "improvement" or "deterioration," and the investigators were aware that some writers have criticized such categories as involving unwarranted value judgments. However, the research team was concerned to evaluate means, not ends; its task was to determine the effectiveness of the Foundation treatment programme in achieving its own aims. These aims certainly involved value judgments, but the
question of their legitimacy was not one that properly concerned the researchers. Accordingly, a definition of rehabilitation was not imposed by the research team, but rather the Foundation staff were asked to outline the ends they sought through their treatment. The Foundation staff presented an initial list of behavioural changes that were desired in their patients, as follows:

Continuing sobriety or

Longer periods of sobriety than before treatment

As well as:

1. Improved stability in employment
2. Reconciliation with spouse
3. Active membership in Alcoholics Anonymous
4. Increased harmony in the home
5. Improved physical status
6. Improved behaviour of children
7. Better social participation
8. Improved attitudes toward life
9. Re-assumption of domestic responsibilities
10. Return to an active religious life
11. More optimistic outlook
12. More realistic approach to problems
13. Continuing use of clinic service
14. Less frequent recourse to drugs or sedatives
15. More self-reliance and less dependency on community resources

16. Improved family interrelationships

The research team then held discussions with the staff as to how these could be classified, and a definition of rehabilitation was established in terms of changes in specified aspects of the subject's behaviour which had occurred between the time of intake at the Foundation and the time of interview, in the following six areas of behaviour:

1. Patient's drinking behaviour
2. Patient's health (physical and emotional)
3. Patient's behaviour in the area of work
4. Patient's interaction in the family
5. Patient's social activities
6. Patient's insight into his problems associated with drinking

Within each of the above six areas, several indices of "rehabilitation" (change in the patient's behaviour in the direction desired by the Foundation) were used. A large amount of fairly detailed information was gathered by asking various questions concerning the pattern of behaviour in each area of life mentioned above, both at the time the subject approached the Foundation and at the time of interview. This information was then used to formulate "objective" indices of rehabilitation, defined as the change in each type of behaviour during
the period between these two occasions.\(^9\)

In other cases, where the kinds of behavioural changes involved did not permit sufficient precision in the data, the measures of rehabilitation were assessments of change in behaviour made by the interviewer, based on the detailed information which had been obtained. In addition to these two types of measures of rehabilitation, the patient's own assessment of the change of behaviour in each of the areas mentioned was secured.

Some comments should be made at this point regarding the choice of these three types of indices of rehabilitation, for this was one of the major methodological problems faced by the research team. The basic question was, which one of the three types of index is the most valid, the "objective" index (based, however, on the patient's own recording of the facts), the subjective assessment made by the patient himself, or the subjective assessment of the interviewer?

The objective index has the advantage that it is least subject to various kinds of distortion which can enter into subjective judgments. Accordingly, an attempt was made to devise as many indices as possible of the objective type. The problem with this sort of measure, however, is the difficulty in constructing an index which adequately measures what it is purported to measure. An extensive reading of the alcoholism literature suggested that the phenomenon of alcoholism is extremely complex, and therefore difficult to reduce to simple
measures of severity of problem. Considerable difficulty was ex-
perienced in the attempt to devise such indices of severity of drinking,
and equal difficulties were present when dealing with other areas of be-
haviour. Nevertheless, several indices of this type were utilized.

The subjective assessment, made by the interviewer, has the
advantage that it can take into account more readily various aspects
of complex patterns of human behaviour, by making use of the inter-
viewer's general "insight" into such behaviour. There is, however,
the possibility of various sorts of bias entering into these judgments,
although there is likely less danger than in the case of the patient's
own assessment.

The patient's own assessment was considered to be subject to
serious bias according to the person's own various needs. Many
writers consider the alcoholic to be particularly prone to many kinds
of distortion, particularly to minimization of his drinking problem. 
Despite this problem, though, there is no reason to discredit com-
pletely the patient's own opinion about his behaviour, and some mea-

Because there seemed to be advantages and disadvantages to
each type of measure, use of only one type was not thought to be justi-
fied, and therefore the indices of rehabilitation included objective in-
dices as well as assessments made by the patient and the interviewer.
III. **Locating and Interviewing the Sample**

Considerable thought was given to approaching and interviewing the subjects in such a way as to secure the most reliable information possible. It seemed advisable to dissociate the research team from the Foundation's clinical operations, since it was felt that too close an association between the research team and the Foundation might lead respondents to give biased answers. For instance, members of the control group might be affected by guilt at not having continued with treatment, or have certain negative impressions of the clinic which they might be reticent to convey to interviewers directly associated with it. Members of the experimental group might be prone to exaggerate the effectiveness of treatment in their own case, if they possessed generally favorable opinions of the treatment programme. Therefore, when contacting the respondents the interviewers stressed the fact that they were part of an outside team of consultants who had been called in to evaluate the work of the clinic. No reference was made during the interviews to any information about the patient which the interviewers possessed. This made possible a check on just how truthful each respondent had been and what facts he tried to hide or distort.

In order to further convey the impression of the objectivity of the research team, interviews were not held in the Foundation offices. Instead, an attempt was made to suggest an association with medical
interests, by holding interviews in offices loaned by the Provincial Health Department. It was felt that this would both increase the subject's willingness to cooperate and also to be less likely to result in his giving biased information. However, it was made clear that the research was in connection with the respondent's alcohol problem. After completing the interviews, the interviewers felt that the location was a good choice and contributed to the patient's feeling at ease.

Difficulties encountered in locating the two hundred persons chosen for interview are rather instructive concerning the nature of the problem drinker. This phase of the project required a tremendous amount of time and energy; it involved the equivalent of one person's working time, including nights and weekends frequently, for over eight months. The three interviewers travelled over 5,000 miles by car and over 2,000 miles by bus, train, and plane in the process of locating the subjects. The difficulties encountered produced a relatively high cost - $28.00 per subject interviewed. In addition to time spent by the interviewers over a three-month period, numerous hours of help were received from literally scores of other agencies.

The experimental and control groups originally contained 200 persons, and 14 substitutions (9 to replace persons who had died, and 5 to replace persons who could not be located) brought the total number of patients selected to 214. In spite of the difficulty in locating subjects, interviews were completed for 72% of the sample (155 persons).
There were only 9 outright refusals, although in the case of some subjects it took a considerable amount of persuasion before they agreed to be interviewed. A summary of cases found and interviewed is presented in TABLE 1.

<table>
<thead>
<tr>
<th>Persons chosen in original groups</th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

Substitutes:
- to match pair: 5
- for dead: 1
  
<table>
<thead>
<tr>
<th>Total Sample Chosen</th>
<th>106</th>
<th>108</th>
<th>214</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total interviewed</th>
<th>91</th>
<th>64</th>
<th>155</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total unable to trace</td>
<td>11</td>
<td>29</td>
<td>40</td>
</tr>
<tr>
<td>Refusals</td>
<td>2</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Unable to interview by final date for various reasons</td>
<td>2</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

| % of Groups Interviewed | 86% | 59% | 72% |

*9 persons died altogether, but 3 did so during the time span allocated for interviewing and no substitutes were deemed necessary; 1 dead person could not be matched.
IV. Summary

The data for this study were obtained from a research project which was designed to evaluate the effectiveness of the treatment for alcoholism given by the Alcoholism Foundation of British Columbia. The research design involved a comparison of the extent of rehabilitation which had taken place over a period of time in two groups of alcoholics, one of which had received treatment from the Foundation while the other had not. The experimental group was composed of those persons who had undergone more than five treatment sessions at the Foundation, while the control group was selected from persons who had approached the Foundation regarding treatment, but who had not remained for more than four treatment sessions.

Certain factors were selected which were considered to potentially affect rehabilitation, with a view to controlling for these factors by ensuring the similarity of the two groups in these respects. The five factors of: time elapsed since intake, age, marital status, occupation, and employment status were controlled by matching each member of the experimental group with another in the control group. Two additional factors (education and religion) were found to have similar group distributions between the experimental and control groups. The characteristic of sex was controlled by eliminating women from the sample. However, because of lack of information it was impossible to control for the factors:
1. Motivation for rehabilitation
2. Severity of drinking problem
3. Treatment received elsewhere

Therefore, an attempt was made in the interview to secure information regarding these factors, in order to ascertain the extent to which both groups were similar in these respects.

A comparison was made between the groups chosen for interview and the total clinic population in the year 1960, and on the factors compared the two groups seemed representative of the total clinic population. The research data were secured in personal interviews with former patients, by the use of a detailed interview schedule. This schedule contained questions which sought to secure three classes of information:

1. The extent of rehabilitation which had occurred
2. Data regarding control factors
3. Miscellaneous information of interest to the Foundation

Various measures of rehabilitation were developed with the aid of consultation with the Foundation staff and the literature on previous follow-up studies. These measures sought to ascertain the extent to which the respondent's behaviour and attitudes had changed between the time of first contact with the Foundation and the time of interview.

Six relevant areas of behaviour were delimited:

1. Drinking behaviour
2. Health (physical and emotional)
3. Behaviour in the area of work
4. Social interaction in the family
5. Social activities
6. Insight into problems associated with drinking

Finally, a brief description was given of the process of locating and interviewing the sample, indicating the methods used and the difficulties encountered. The degree of success achieved was also indicated.
FOOTNOTES: Chapter II


2 See, for example, the discussion of this question by R. J. Gibbins and J. D. Armstrong, "Effects of Clinical Treatment on Behaviour of Alcoholic Patients," Quarterly Journal of Studies on Alcohol, XVIII (September, 1957), 430-431.

3 Another inadequacy observed in some of the follow-up studies in the literature was the mere observing of status at follow-up on certain behavioural characteristics, rather than using measures of change. For instance, see Clinical Practice and Community Education on Alcoholism: A Research Report on the Program of the Connecticut Commission on Alcoholism (Hartford: Connecticut Commission on Alcoholism, 1959), pp. 19-23.

4 $T_1$ refers to time of intake interview, and $T_2$ refers to time of follow-up interview.

5 Strictly speaking, this would be referred to as a "pseudo-control" group, but for ease of expression, it will be subsequently called a control group.

6 It is significant to note that a subsequent follow-up study to the present one has employed the same definition, regarding those who attended more than four times as "treatment patients." Gerhart Saenger and Donald Gerard, "A Follow-Up Study of Patients Seen in Clinics Associated with the North American Association of Alcoholism Programs," in Selected Papers Delivered at the Fourteenth Annual Meeting of the North American Association of Alcoholism Programs (Washington: North American Association of Alcoholism Programs, 1963), p. 104.

7 Details of the procedure followed in developing the interview schedule will be found on pp. 26-29 of the project research report, Robson, Paulus, and Clarke, op. cit.

8 For example, see Gibbins and Armstrong, op. cit., pp. 449-450.
For instance, one of the indices was "abstinence," defined as the difference between the number of weeks of complete abstinence in two six-month periods, one before the time of intake at the Foundation, the other before the time of follow-up interview.


A comparison of the results achieved by the use of various sorts of indices is presented in Chapter III below.

Smith (op. cit.) states that in a California Department of Public Health study during 1956-1958, the respondents were informed they were taking part in a health survey. However, after some of them realized the study was actually directed towards their drinking behaviour for the most part, they were quite annoyed and felt that the interviewer had deceived them by misrepresenting the facts. The investigators in the present research project, therefore, decided not to make the same mistake.

The procedure followed in locating subjects is described in considerable detail in Chapter 3 of the project research report, Robson, Paulus, and Clarke, op. cit.
CHAPTER III

THE EFFECT OF TREATMENT ON REHABILITATION

I. Control Factors

The first step in the analysis of the data was to check the similarity of the experimental and control groups on those factors which were considered to have a possible effect on rehabilitation. It will be remembered that the two groups were constructed of 100 pairs matched on a number of socio-economic characteristics. However, because not all those selected could be interviewed and also because some data used in the matching process were found during the follow-up interview to be erroneous, only 44 matched pairs were obtained from the total of 155 persons who were eventually interviewed. This substantial reduction in the number of matched pairs was not as serious as it might seem, however, since the experimental and control groups composed of both matched and unmatched patients were found to have comparable distributions to the matched pair groups on all eleven control factors. Therefore, the entire group of 155 subjects were used for the major portion of the analysis, but as a safeguard, a similar analysis was undertaken using only the matched pairs, since this is a more effective means of control than using group distributions.

Comparison of the experimental and control groups showed that
they were similar on eight of the control factors and different on only three: motivation, seriousness of drinking problem, and contact with Alcoholics Anonymous after receiving Foundation treatment. Those in the experimental group were somewhat better motivated to be rehabilitated, they had more serious drinking problems (according to their own assessment), and had more contact with Alcoholics Anonymous since coming to the Foundation. Comparison of the extent of rehabilitation in the experimental and control groups therefore included controls for the effect of these three factors.

II. Indices of Rehabilitation

Before presenting the results on the comparison of rehabilitation rates in the experimental and control groups, some comments should be made on the indices of rehabilitation which were used for analysis. The measures of rehabilitation were defined in terms of change between the time the subject first approached the Foundation and the time of interview. Principally due to the relatively small number of cases, most of the analysis utilized only three categories: "Improved," "No Change," and "Deteriorated." However, a finer breakdown was used for the sake of greater precision in some cases.

As will be recalled, six areas of rehabilitation were selected, involving both the patient's drinking behaviour and his behaviour in other areas of life. Various questions were asked covering several aspects of behaviour in each area. In addition to these questions
concerning actual behaviour, the patient was asked for his own assessment of the degree of change that had taken place in each area. Based on all the answers obtained in any one area, the interviewer then made an overall assessment of change in that area.

Each of the six areas generally included between five and ten questions, in order to ensure adequate coverage. For the purpose of analysis, however, comparisons between the experimental and control groups involving between forty and fifty indices would have been far too unwieldy. Therefore, all indices in each area were cross-tabulated against each other to see if they measured essentially the same thing. To facilitate this portion of the analysis, a measure of the extent of covariance in each bivariate comparison was developed, called for sake of convenience, "consistency."

\[
\text{CONSISTENCY} = \frac{\text{Number of cases moving in the same direction on each index} (\dagger, \, O, \, -)}{\text{Total number of cases (excluding "no answer" responses)}}
\]

The consistency figures computed between each pair of indices within an area were examined, and clusters of indices identified. In the case of each cluster, the item with the highest consistency with others was selected for purposes of further analysis. Indices which did not show high consistency with others in the area (consistency figures generally less than .75) were included in the further analysis as separate indices.
of rehabilitation, since it was felt that they might measure a different aspect of behaviour.

TABLE 2 shows consistency figures between various indices of change in drinking behaviour, as an example of the technique which was used. Indices are referred to by their code number.

TABLE 2: Consistency Figures Between Various Indices of Change in Drinking Behaviour

<table>
<thead>
<tr>
<th>INDEX</th>
<th>059</th>
<th>071</th>
<th>072</th>
<th>143</th>
<th>154</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>059</td>
<td></td>
<td>.83</td>
<td>.94</td>
<td>.87</td>
<td>.60</td>
<td>.81</td>
</tr>
<tr>
<td>071</td>
<td>.83</td>
<td></td>
<td>.82</td>
<td>.78</td>
<td>.57</td>
<td>.75</td>
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<td>072</td>
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<td>143</td>
<td>.87</td>
<td>.78</td>
<td>.90</td>
<td></td>
<td>.64</td>
<td>.80</td>
</tr>
<tr>
<td>154</td>
<td>.60</td>
<td>.57</td>
<td>.60</td>
<td>.64</td>
<td></td>
<td>.60</td>
</tr>
</tbody>
</table>

Index 059 is highly consistent with indices 072 and 143, and was chosen as being representative of them for purposes of analysis. Indices 154 and 071 show lesser degrees of relationship to other indices and to each other, and therefore, they were chosen as additional separate indices of change in drinking behaviour.

The same techniques were used in examining indices of rehabilitation in other areas of behaviour. This procedure resulted in a
substantial reduction in the number of indices for each area; the final number used to measure rehabilitation in the original project was thirteen.  

Differences did occur in many instances between the patient's and interviewer's assessments. The interviewer's observations regarding the patient's assessment were that the patient tended to minimize his present (at the time of follow-up interview) drinking problem, and maximize any degree of improvement that he saw. For instance, in the area of drinking behaviour even a very slight degree of change (such as the patient drinking somewhat less per sitting—often due to a physical decrease in tolerance over time) would be seen by the patient as a substantial degree of improvement; while to the interviewer this would not represent any significant change. Perhaps the fact that the patient had sought help at one time or another led him to think that he should have somehow improved, and therefore he concluded that he had.

In other areas than drinking, the discrepancy between the patient's and interviewer's assessments may be due to a tendency for the patient to "automatically" see an improvement in all other areas whenever he saw an improvement in drinking behaviour, while the interviewer would often see an improvement in one or two areas only.

In addition to these various distortions, the interviewers observed a considerable difference between various subjects in the
definitions they employed for their judgments. These observations would suggest that during analysis, greater validity was imputed to the interviewer's assessment than to the patient's. This is true to a limited extent. Where the two assessments were highly consistent with one another, the interviewer's assessment was chosen, but when they differed significantly, both were included in the final list of rehabilitation indices.

In the area of health, however, only the patient's assessment was used. The interviewers did gather as much information as possible, with the object of having the clinic physician make an assessment. However, the physician experienced considerable difficulty in making judgments on the frequently inadequate information elicited during the interview. The interviewers did not feel competent to make a judgment in this particular area, and therefore only the patient's assessment was used for analysis.

III. Differences in Rehabilitation Between Experimental and Control Groups

TABLE 3 presents a comparison between experimental and control groups on the major indices of rehabilitation, and TABLE 4 shows the differences between the two groups.
<table>
<thead>
<tr>
<th>Rehabilitation Indices Change)</th>
<th>% Improved Experimental</th>
<th>% Improved Control</th>
<th>% No Change Experimental</th>
<th>% No Change Control</th>
<th>% Deteriorated Experimental</th>
<th>% Deteriorated Control</th>
<th>Statistical** Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drinking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA - Drinking problem</td>
<td>72</td>
<td>61</td>
<td>14</td>
<td>25</td>
<td>14</td>
<td>14</td>
<td>.02&lt;p&lt;.05</td>
</tr>
<tr>
<td>IA - Drinking problem</td>
<td>58</td>
<td>39</td>
<td>25</td>
<td>42</td>
<td>16</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Abstinence</td>
<td>62</td>
<td>58</td>
<td>36</td>
<td>39</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Liquor offences</td>
<td>25</td>
<td>23</td>
<td>65</td>
<td>61</td>
<td>10</td>
<td>16</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PA - Overall</td>
<td>57</td>
<td>31</td>
<td>28</td>
<td>47</td>
<td>15</td>
<td>23</td>
<td>.001&lt;p&lt;.01</td>
</tr>
<tr>
<td><strong>Work</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA - Overall</td>
<td>45</td>
<td>37</td>
<td>27</td>
<td>40</td>
<td>28</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>IA - Overall</td>
<td>23</td>
<td>15</td>
<td>42</td>
<td>45</td>
<td>34</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Employment status</td>
<td>17</td>
<td>15</td>
<td>76</td>
<td>76</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Responsibility</td>
<td>60</td>
<td>49</td>
<td>35</td>
<td>46</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Social Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Financial responsibility</td>
<td>12</td>
<td>6</td>
<td>78</td>
<td>79</td>
<td>10</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>IA - Leisure time activities</td>
<td>61</td>
<td>53</td>
<td>38</td>
<td>45</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Insight</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Reasons for drinking</td>
<td>48</td>
<td>24</td>
<td>52</td>
<td>76</td>
<td>0</td>
<td>0</td>
<td>.001&lt;p&lt;.01</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Overall</td>
<td>60</td>
<td>42</td>
<td>16</td>
<td>33</td>
<td>23</td>
<td>25</td>
<td>.001&lt;p&lt;.01</td>
</tr>
</tbody>
</table>

*All "no answer" responses have been excluded; therefore percentages add up to 100.

**Probability estimates based on chi-squared values are shown when p < .05.
### TABLE 4: Percentage Differences in Degree of Rehabilitation Between Experimental and Control Groups*

<table>
<thead>
<tr>
<th>Rehabilitation Indices (Change)</th>
<th>% Improved</th>
<th>% No Change</th>
<th>% Deteriorated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Drinking</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA - Drinking problem</td>
<td>+11</td>
<td>-11</td>
<td>0</td>
</tr>
<tr>
<td>IA - Drinking problem</td>
<td>+19</td>
<td>-17</td>
<td>-3</td>
</tr>
<tr>
<td>Abstinence</td>
<td>+4</td>
<td>-3</td>
<td>-1</td>
</tr>
<tr>
<td>Liquor offences</td>
<td>+2</td>
<td>+4</td>
<td>-6</td>
</tr>
<tr>
<td><strong>2. Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA - Overall</td>
<td>+26</td>
<td>-19</td>
<td>-8</td>
</tr>
<tr>
<td><strong>3. Work</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA - Overall</td>
<td>+8</td>
<td>-13</td>
<td>+5</td>
</tr>
<tr>
<td>IA - Overall</td>
<td>+8</td>
<td>-3</td>
<td>-6</td>
</tr>
<tr>
<td>Employment status</td>
<td>+2</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td><strong>4. Family</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Responsibility</td>
<td>+11</td>
<td>-11</td>
<td>0</td>
</tr>
<tr>
<td><strong>5. Social Activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Financial Responsibility</td>
<td>+6</td>
<td>-1</td>
<td>-4</td>
</tr>
<tr>
<td>IA - Leisure time activities</td>
<td>+8</td>
<td>-7</td>
<td>-1</td>
</tr>
<tr>
<td><strong>6. Insight</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Reasons for drinking</td>
<td>+24</td>
<td>-24</td>
<td>0</td>
</tr>
<tr>
<td><strong>7. Summary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA - Overall</td>
<td>+18</td>
<td>-17</td>
<td>-2</td>
</tr>
</tbody>
</table>

* (+) differences indicate that the percentage for the experimental group is greater than that for the control group, and (-) differences the reverse.
Overview

In the first place, the investigators were struck by what was to them a surprisingly high proportion of the total 155 subjects who had shown some improvement in their behaviour: approximately one-half had improved to some extent, one-quarter had remained the same, and one-quarter had deteriorated. Although one-half had improved, however, a finer breakdown in categories shows only one-fifth were rated as "much improved."

Turning to the differences in degree of rehabilitation between the two groups, TABLE 4 shows that the members of the experimental group had improved more than those in the control group in all areas, without a single exception. The differences range from an insignificant 2% (in liquor offences and employment status) to a substantial 26% (in health). The difference in overall improvement between experimental and control groups on a summary measure, the interviewer's assessment of overall change, is 18%.

Conversely the control group had shown "no change" more than the experimental group except in a couple of areas. The differences here range from 1% to 24%. Deterioration shows no substantial differences in any area, the greatest difference being 8% in the area of health. Analysis therefore was concentrated mainly on the improved category, assuming that deterioration showed no real differences and
"no change" moved reciprocally with improvement.

Each horizontal line in TABLES 3 and 4 represents a bivariate tabulation comparing the degree of rehabilitation between experimental and control groups on the particular index of change in question. On only four out of thirteen indices do the chi-squared values for these bivariate distributions show differences between experimental and control groups which reach the .05 level of significance. As TABLE 4 indicates, however, there are similar differences in the same direction on other indices, although not reaching the .05 level of statistical significance. This degree of consistency between various indices indicating a greater degree of rehabilitation in the experimental group than in the control group thus suggests that this difference is a real one.

Although the general conclusion at this point seems to be that there is a greater degree of rehabilitation in the experimental group, it will be necessary to account for the differing values on various indices in different areas of behaviour. This could be either due to differential validity among the indices, or it could represent real differences in extent of change which had taken place in each aspect of behaviour. The next section examines the degree of change indicated by each index in each area of behaviour. It will be seen that a difference is evident between the two groups in the extent of change in drinking behaviour, and that
there are similar differences in other areas of behaviour.

Areas of rehabilitation

On the measures of "change in drinking problem," the interviewer's and patient's assessments show differences in the amount of improvement between the two groups of about 20% and 10% respectively. This refers merely to some degree of improvement whether large or small. TABLE 5 shows a finer breakdown of categories of change in extent of drinking problem.

First of all, attention should be drawn to the category "no problem", which in one sense departs from the scale of change. It represents a conception of final state, as well as maximum possible degree of change; those rated as such having improved to such an extent that they now have no problem with alcohol.

From TABLE 5 we can see that according to the interviewer's assessment, the greatest difference in improvement between the experimental and control groups occurs in that category which represents the smallest degree of improvement (less severe problem). Nonetheless, assignment to this category still involves a substantial decrease in alcohol consumption. With the patient's assessment; the largest difference comes under "much less severe problem." In the case of neither of the two assessments, however, is there any real difference between the two groups in the percentage of patients who
TABLE 5: Percentage Comparison of Change in Drinking Problem in Experimental and Control Groups*

<table>
<thead>
<tr>
<th></th>
<th>Degree of Rehabilitation (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Problem</td>
<td>Much Less Severe Problem</td>
<td>Less Severe Problem</td>
<td>Same Problem</td>
<td>More Severe Problem</td>
<td>Much More Severe Problem</td>
<td>No Problem</td>
<td>Answer</td>
</tr>
<tr>
<td><strong>Assessment and Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviewer's assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>24</td>
<td>11</td>
<td>23</td>
<td>25</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>20</td>
<td>8</td>
<td>11</td>
<td>42</td>
<td>11</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>+4</td>
<td>+3</td>
<td>+12</td>
<td>-17</td>
<td>-2</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Patient's assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>28</td>
<td>18</td>
<td>22</td>
<td>13</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>31</td>
<td>6</td>
<td>17</td>
<td>22</td>
<td>6</td>
<td>6</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>-3</td>
<td>+12</td>
<td>+5</td>
<td>-9</td>
<td>0</td>
<td>0</td>
<td>-7</td>
<td></td>
</tr>
</tbody>
</table>

* (+) differences indicate that the percentage for the experimental group is greater than that for the control group, and (-) differences the reverse.
have changed so that they now have "no problem."

The other two indices in the area of drinking (abstinence and liquor offences) show no marked differences between the experimental and control groups. During the course of interviewing, the interviewers reached the conclusion that change in abstinence did not seem to be a very good indicator of change in drinking behaviour. This index was defined as the difference between the number of weeks of complete abstinence in two six-month periods, one before the time of intake at the Foundation, and one before the time of follow-up interview. Because a number of patients seemed to have moderated their drinking markedly but not to have stopped completely this index did not register many changes among the subjects. 7

Another problem with the "abstinence" index arose from the matter of enforced abstinence. Periods in jail or mental hospital or time spent by loggers in "dry camps" or by fishermen on boats which prohibit drinking, did not qualify as periods of voluntary abstinence. On the other hand, it cannot be assumed either that the person necessarily would have been drinking throughout these periods. Thus it was difficult to apply this measure in many instances.

There was also no difference between the two groups in liquor offences. Over one-half of each group had no liquor offences prior to coming to the Foundation, and the majority of these still reported none. It is probable that this is not a particularly good index, because arrests
for drinking offences are often fortuitous.

Thus in the sphere of drinking behaviour itself, the two attempts at arriving at completely "objective" indices of rehabilitation do not seem to have been too successful because, for the reasons just given, these indices do not show changes that parallel those on other indices. The nature of problem drinking is extremely complex, often involving a rather different pattern from one person to the next, and hence the investigators reached the conclusion that the interviewer's assessment (which attempts to take into account many factors simultaneously) was a more adequate method of measuring changes in drinking behaviour than were the simple measure of abstinence and liquor offences that were also used.

**Health**

Changes in health closely parallel changes in drinking behaviour, for there is a similar difference in improvement (26%) between the two groups; as in the case of changes in drinking behaviour a higher proportion of the experimental group shows improvement.

**Work**

In the area of work, the proportion of those showing improvement is slightly greater for the experimental than for the control group on all three indices, although none of the differences is statistically significant. Thus fewer patients (8% as against 20%) show rehabilitation in the area of work (by patient's or interviewer's assessment) than they
do with regard to drinking behaviour. This is substantiated by examination of a finer breakdown of improvement categories. Of the 30 persons who were assessed improved by the interviewer, only one was rated as "much improved"; the rest were rated as "somewhat improved."

Employment status (employed versus unemployed) shows no real differences between the two groups. Cross-tabulations show that those who were unemployed at intake tended to be also unemployed at time of interview (70% were) and those who were employed tended to be still employed (80%), although their employment status might have changed during this period.

**Family**

In this area only one index was used: interviewer's assessment of the fulfillment of responsibility to family members. A large number of questions were asked in the area of family relationships pertaining to both wife and children, and tabulation of these against each other showed a high degree of consistency, even between the patient's and interviewer's assessments. Assessments in this area were made only for those men who were "married" or living "common-law" and who still had contact with wife and/or children at the time of interview -- slightly more than one-half of all subjects. Of these, 11% more in the experimental than in the control group showed some degree of improvement.
Social Activities

In this area there are differences between experimental and control groups of 6% and 8% respectively in the proportion of subjects who have improved on the two indices, financial responsibility and leisure-time activities. Here again, as in the areas of work and family, the difference between experimental and control groups is relatively small.

Insight

The interviewer’s assessment of change of insight was an attempt to determine whether changes in drinking behaviour are accompanied by corresponding changes in the patient’s understanding of his problems with alcohol. Indeed, it may be the changes in behaviour to some extent result from changes in understanding. The two types of change do in fact parallel one another; 24% more subjects in the experimental than the control group had improved in insight, slightly more than in drinking behaviour (19% according to interviewer’s assessment) or in overall behaviour (18%).

Overall behaviour

The summary assessment by the interviewer shows that 60% of the experimental group and 42% of the control group had shown some degree of positive change. This difference is significant at better than the .01 level. This index is tied quite closely to drinking, for drinking was the most important factor taken into account in making this assessment. Thus the difference between the experimental and control subjects who had
improved in overall behaviour (18%) is roughly the same as the difference in improvement in drinking (19% by interviewer's assessment).

**Matched pair analysis**

Examination of the rates of rehabilitation in the matched groups shows similar results, and these will not be discussed here in detail. 8

**Summary**

There is a consistently greater percentage of subjects in the experimental than in the control group who show improvement in their behaviour. The greatest difference in degree of change is evident in the area most central to an alcoholic's behaviour, his drinking (where the interviewers saw 19% more of the experimental group as having improved), as well as in health (26% difference), in insight (24% difference), and in overall behaviour (18% difference); in each of these cases the differences is statistically significant at the .05 level of chance probability. Smaller but corresponding amounts of difference in improvement between the two groups ranging from 2% to 11% were seen in other areas of behaviour (work, family, and social activities).

As an overall conclusion, roughly 20% more subjects in the experimental than in the control group have improved in drinking behaviour, and varying amounts of difference in the same direction are evident in other areas of behaviour. A summary assessment of change made by the interviewer indicated 18% more of the experimental group as having improved.
IV. The Effect of Differences on Control Factors

In order to see whether the approximately 20% higher rate of rehabilitation among members of the experimental group could legitimately be attributed to the treatment these patients received from the Foundation rather than to any of the three factors on which the two groups differed, rehabilitation rates were then compared controlling for each of these three factors in turn. This analysis showed that the severity of the patient's drinking problem did not significantly or consistently affect rehabilitation, but that motivation and attendance at Alcoholics Anonymous meetings did.

TABLE 6 presents a comparison of rehabilitation between experimental and control groups according to their degree of motivation upon approaching the Foundation for treatment. Here motivation is measured by attitude towards treatment: "high" motivation means realistic attitudes, and "low" motivation means unrealistic or manipulative attitudes. This index was an attempt to distinguish between those who looked upon treatment realistically, realizing that it would require some effort on their own part, from those who either sought a "magical" solution to their problems or who wanted treatment as a means to some end other than rehabilitation.

Looking at this table, it is evident that motivation does have some effect on rehabilitation; a somewhat greater proportion of those with high motivation in both experimental and control groups improved,
TABLE 6: Percentage Comparison of Overall Change (Interviewer's Assessment) in Experimental and Control Groups According to Motivation*

<table>
<thead>
<tr>
<th>Group and Degree of Motivation</th>
<th>Degree of Rehabilitation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Improved</td>
<td>% No Change</td>
</tr>
<tr>
<td><strong>Experimental Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>74</td>
<td>14</td>
</tr>
<tr>
<td>Neutral</td>
<td>61</td>
<td>17</td>
</tr>
<tr>
<td>Low</td>
<td>50</td>
<td>17</td>
</tr>
<tr>
<td><strong>Control Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>64</td>
<td>18</td>
</tr>
<tr>
<td>Neutral</td>
<td>53</td>
<td>26</td>
</tr>
<tr>
<td>Low</td>
<td>30</td>
<td>43</td>
</tr>
</tbody>
</table>

*All "no answer" responses have been excluded; therefore percentages add up to 100.

compared to those with either neutral or poor motivation. However, when those with similar motivation in experimental and control groups are compared, there is also a difference in rehabilitation: of those with high motivation 74% of the experimental group and only 64% of the control group have improved. Therefore, it can be concluded that the 20% difference in rehabilitation between experimental and control groups must be attributed in part to a difference in motivation between the two groups, rather than completely to the difference in treatment.
TABLE 7 shows the effects of Alcoholics Anonymous attendance after coming to the Foundation upon rehabilitation for the experimental and control groups.

TABLE 7: Percentage Comparison of Overall Change (Interviewer's Assessment) in Experimental and Control Groups According to Number of Alcoholics Anonymous Meetings Attended After Initial Visit to the Foundation

<table>
<thead>
<tr>
<th>Group and Number of Meetings</th>
<th>Degree of Rehabilitation</th>
<th>% Improved</th>
<th>% No Change</th>
<th>% Deteriorated</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% Improved</td>
<td>% No Change</td>
<td>% Deteriorated</td>
<td></td>
</tr>
<tr>
<td><strong>Experimental Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 10 meetings</td>
<td>71</td>
<td>7</td>
<td>22</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Under 11 meetings</td>
<td>57</td>
<td>21</td>
<td>22</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td><strong>Control Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 10 meetings</td>
<td>70</td>
<td>15</td>
<td>15</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Under 11 meetings</td>
<td>37</td>
<td>37</td>
<td>26</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>151</td>
</tr>
</tbody>
</table>

*All "no answer" responses have been excluded; therefore percentages add up to 100.

First, the above table shows that continued attendance at meetings of Alcoholics Anonymous improves a person's chances of rehabilitation; those who had attended more than ten meetings have a 14%
higher rate of improvement in the experimental group and a 33% higher rate in the control group. Second, the rates of rehabilitation for those having a fairly long association with Alcoholics Anonymous are almost identical between the experimental and control groups (71% and 70% respectively). Thus for those who receive "treatment" from Alcoholics Anonymous, the additional treatment received from the Foundation does not appear to increase their chances of becoming rehabilitated.

On the other hand, for those who did not have a significant amount of contact with Alcoholics Anonymous, treatment at the Foundation produces a 20% difference in rehabilitation (experimental group 57%, control group 37%). Since, however, in some cases improvement appears to be due to Alcoholics Anonymous rather than to the Foundation, in assessing the effectiveness of the Foundation's treatment programme it will be necessary to take this into account.

It can be concluded, then, that the experimental group were more highly motivated to be rehabilitated and also included a higher proportion of those who had attended Alcoholics Anonymous meetings, and a part of the higher rate of rehabilitation in the experimental group must be attributed to these two factors rather than to the Foundation treatment. However, calculations on the combined effect of these two factors show that their combined effect was only to increase the rate of rehabilitation of the experimental group by 7%, which means that the effect of Foundation treatment was still to increase the
V. Summary

Examination of results on the thirteen indices of rehabilitation chosen for analysis showed that roughly one-half of all subjects had improved to some extent between the time they first visited the Foundation and the time of follow-up interview, one-quarter had remained the same, and one-quarter had deteriorated. Only about one-fifth, however, were rated as "much improved."

A comparison of rehabilitation rates between the experimental and control groups revealed that a consistently greater percentage of experimental group subjects had improved. The differences in some areas of behaviour (work, family, and social activities) were relatively small, while the differences in drinking behaviour, health, and insight were somewhat greater (ranging between 20% and 25%). Further, the interviewers assessed approximately 20% more of the experimental group subjects as having shown overall improvement, although most of this difference was found in the "somewhat improved" category.

Since differences had been found between experimental and control groups on motivation and attendance at Alcoholics Anonymous (the experimental group were somewhat better motivated to be rehabilitated and had attended more Alcoholics Anonymous meetings since Foundation contact), it was then necessary to control for these factors. It was
found that these differences did account in part for the greater degree of rehabilitation in the experimental group, but that approximately 10% to 15% of the differential improvement could be legitimately attributed to the effect of treatment at the Alcoholism Foundation.
FOOTNOTES: Chapter III

1 Results of this comparison are not presented in detail here, but are discussed in Reginald A. H. Robson, Ingeborg Paulus, and G. Grant Clarke, An Evaluation of the Effect of Treatment on the Rehabilitation of Alcoholics (Vancouver: The Alcoholism Foundation of British Columbia, 1963), Chapter 4.

2 In the portion of analysis unique to this investigation, a further reduction in the number of indices has been adopted. See Chapter IV.

3 For a good discussion of the various sorts of distortion which can enter into patients' reporting of their drinking behaviour, see Eugenia V. Smith, "Field Interviewing of Problem Drinkers," Social Work, IV (October, 1959), pp. 80-86.


6 In this table, and in succeeding tables, the patient's assessment is represented by the abbreviation "PA" and the interviewer's assessment by "IA".

7 One of the major impressions received by the interviewers from talking to this number of subjects was that a surprisingly large number seemed to have managed to control their drinking, to a greater or lesser degree, while not completely abstaining. This is completely at variance with much of the literature which almost unanimously suggests that the only way an alcoholic can control his consumption of alcohol is to abstain completely. Recently, however, this concept has
been questioned in the literature; see, for example the article by D. L. Davies, "Normal Drinking in Recovered Alcohol Addicts," *Quarterly Journal of Studies on Alcohol*, XXIII (March, 1962), 94-104.

8 Tables containing the comparison between matched pairs and total experimental and control groups are included in the Foundation's research report, Robson, Paulus, and Clarke, *op. cit.*, pp. 108-111.

9 For details of the results on this factor, see *ibid.*, pp. 113-115.
CHAPTER IV

AREAS OF CHANGE IN REHABILITATION

I. Introduction

The analysis reported in Chapter III led to three major conclusions which provided the basis for the hypotheses tested in the present study. First, it was shown that treatment at the Alcoholism Foundation was effective in increasing the proportion of alcoholic patients who show improvement in their drinking behaviour between the time of an initial visit to the Foundation and follow-up interview. Second, it was demonstrated that treatment received from Alcoholics Anonymous is also effective in producing like changes in behaviour. In fact, a certain proportion of the greater improvement in the experimental group must be attributed to Alcoholics Anonymous rather than to the Foundation. Third, changes in other areas of behaviour than drinking (health, work, family relationships, and social activities) paralleled in varying degree changes in drinking behaviour. That is, similar percentages of improvement, lack of change, and deterioration in drinking and other behaviour were evident in both experimental and control groups.

These results, coupled with the theoretical ideas about behaviour discussed in Chapter I, led to the formulation of the hypotheses
that there exists a relationship between changes in drinking and in other behaviour, and that this relationship would be more evident amongst those who have had treatment from the Foundation. It is important to note that parallel changes in various areas of behaviour of a group of subjects do not in themselves demonstrate such a relationship in the functioning of individuals. The similar percentages suggested the possibility of a relationship, but do not show that it actually exists, since we do not know that the same individuals are involved in each case.

This chapter therefore attempts to test the hypothesized relationships, utilizing a series of cross-tabulations of indices of change. These cross-tabulations will show in which cases both sorts of change (in drinking and other behaviour) are present, in which cases only one or the other is present, and in which cases neither type of change has occurred.

II. The Choice of Indices of Change

The problem of choosing indices to use in the analysis which is to follow was the same as that faced previously. It is important to employ enough different indices to adequately cover various aspects of behaviour, but, on the other hand, the manipulation of too many indices becomes unwieldy.
Indices of change in drinking behaviour

In Chapter III, four different indices of change in drinking are employed. It was observed, first of all, that the patient's assessment of change in drinking problem was similar to other indices, but that percentages were somewhat larger. Since the interviewers' impressions (substantiated by those of previous investigators) suggested that the patient (consciously or otherwise) tends to distort his assessment in various ways commensurate with his own needs, it seemed reasonable to impute less validity to such subjective assessments on the part of the person himself. In addition, the results of this assessment are not greatly different from those of the interviewer's assessment. Therefore, the patient's assessment was not employed in the analysis reported below.

The indices of change in abstinence and change in liquor offences, on the other hand, did not parallel the other indices so closely. For various reasons discussed above (pp. 49 - 50), it was concluded that these two indices were not as adequate for measuring change as were the more subjective assessments of the patient and interviewer. Even though these indices are believed to be not as sensitive to the discrimination of many kinds of change, however, one would not expect that results shown by them would often contradict other results. For this reason, and in order to provide some more "objective" check on the interviewer's assessment, a composite index was developed
utilizing all three indices, interviewer's assessment of change in drinking problem, change in abstinence, and change in liquor offences.

The composite index developed attempts to take account of the weight of evidence from all three indices, by using a (+), (0), and (-) rating scheme as follows:

<table>
<thead>
<tr>
<th>Composite Index</th>
<th>Other Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ = +, +, +</td>
<td>+, +, +</td>
</tr>
<tr>
<td></td>
<td>+, +, 0</td>
</tr>
<tr>
<td></td>
<td>+, +, -</td>
</tr>
<tr>
<td></td>
<td>+, 0, 0</td>
</tr>
<tr>
<td>0 = +, 0, -</td>
<td>0, 0, 0</td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-, -, -</td>
</tr>
<tr>
<td></td>
<td>-, -, 0</td>
</tr>
<tr>
<td></td>
<td>-, -, +</td>
</tr>
<tr>
<td></td>
<td>-, 0, 0</td>
</tr>
</tbody>
</table>

In order to see whether this composite index would obscure any later results, a check was made by choosing three major indices of change in other areas of behaviour (interviewer's assessments of change in work, family responsibility, and leisure time activities), and cross-tabulating each of these indices against each separate index of change in drinking behaviour, as well as against the composite index. The individual tables were examined, and chi-squared values compared.²

Results on each index of change in drinking behaviour were
generally the same, but were less marked in the cases of change in abstinence and change in liquor offences. The composite index showed quite similar results to those of the interviewer's assessment, but the relationship was less strong. All distributions using the interviewer's assessment or the composite index were significant at the .05 level, however, while most of those using the change in abstinence or change in liquor offences, indices were not statistically significant.

Since greatest validity was attributed to the interviewer's assessment, and the composite index gives similar results, the composite index appears to adequately incorporate the interviewer's assessment, while giving the added check provided by also including the other two objective indices. In addition, use of the composite index rather than the interviewer's assessment alone, will provide a more rigorous test when analysis is broken down more finely in later stages of the analysis, since the relationship is not as great when the composite index is used.

Indices of change in areas of behaviour other than drinking

Four areas of behaviour other than drinking were chosen during preparation of the interview schedule for investigation: health, work, family relationships, and social activities. Change in these four areas was measured by a large number of indices, which was reduced to seven for the purposes of the analysis of Chapter III. These indices were as follows:

1. Health: Patient's overall assessment of change
2. Work: 
   a) Patient's overall assessment of change  
   b) Interviewer's overall assessment of change  
   c) Change in employment status

3. Family: Interviewer's assessment of change in the fulfillment of responsibility towards family members

4. Social Activities: 
   a) Interviewer's assessment of change in the fulfillment of financial responsibility in paying for accommodation  
   b) Interviewer's assessment of change in leisure time activities

The analysis of this chapter utilizes the same four areas of behaviour, but the number of indices is reduced to five. A brief discussion of the indices chosen follows.

1. Health

In this area, only the patient's assessment is used, since it seemed to be more useful, for reasons discussed above (Chapter III, p. 42).

2. Work

The interviewer's assessment of change was chosen to be representative of this area for the subsequent analysis. It is believed that a similar distortion entered into the patient's assessment of change in work as affected his assessment of change in drinking problem, leading the patient to see more improvement than was apparent to the interviewer, and therefore the interviewer's assessment will be used rather than the patient's. Change in employment status was found to be
negligible, since few persons had changed from unemployed to employed or from employed to unemployed between the times of intake at the Foundation and follow-up interview, and this index was therefore omitted (see p. 51).

3. **Family**

The interviewer's assessment of fulfillment of responsibility to family members (which applies to those married or living common-law) was found to be the best index to represent the large number of questions asked in this area of behaviour, and it is used again in the following analysis.

4. **Social activities**

Two indices were found to be representative of rather different aspects of this broad area of behaviour. The interviewer's assessment of financial responsibility was based on whether or not the individual was as self-supporting in paying for residential accommodation as he could be. In other words, if a person was financially dependent on social assistance, a wife, or relatives when he appeared to be capable of being more independent in this regard, this would be regarded by the interviewer as being "poor". If the individual had become more independent between $T_1$ and $T_2$, he was rated as improved, and conversely.

The second index of general social functioning was based on change in leisure time activities. Change from activities dominated by drinking to a broader range of satisfying activities with increased social
participation was rated as improvement.

The final list of indices of change in areas of behaviour other than drinking is therefore as follows:

1. Health (PA)
2. Work (IA)
3. Family responsibility (IA)
4. Financial responsibility (IA)
5. Leisure time activities (IA)

III. Categories of Change

The categories originally scored on the above indices included between three and six degrees of change, but the major portion of the analysis of Chapter III utilized only three categories: "Improved," "No Change," and "Deteriorated." Preliminary analysis of relationships between change in drinking behaviour and change in other areas of behaviour used these same three categories, but it was soon evident that the small number of subjects (N=155) would result in many cells with small expected frequencies, making conclusions unreliable, particularly when the chi-squared test was used. Categories were therefore further collapsed by combining "No Change" and "Deteriorated," into a category of "Not Improved." It was felt that this was legitimate, since it was noted above that there were few differences in deterioration, and "No Change" tended to move reciprocally with improvement (p. 45).
Cross-tabulations thus resulted in four-fold tables, which have many advantages in terms of ease of handling, and which make certain more precise tests possible. ³

One more remark should be made about categories of change. There are a number of cases where improvement was not possible, since there was no need for improvement in particular areas of behaviour on the part of certain individuals. It seems reasonable to assume that although all the persons coming to the Alcoholism Foundation for treatment may not have developed drinking problems to the extent that they could be properly defined as "alcoholics," all would be capable of some improvement in drinking behaviour. This is not the case with regard to other areas of behaviour, though. Many individuals in the sample had not allowed their drinking to interfere markedly with their performance in work or in the management of family responsibility, for example, and therefore would not be expected to improve in these areas if their drinking behaviour improved. It will be important to bear this fact in mind when examining the relationships below. Even if the hypothesized relationship were true in every case where improvement was possible, our data would not show perfect correspondence, since there is no way of discriminating between those cases where positive change is and is not possible. ⁴
IV. Interrelationships Between Change in Drinking Behaviour and in Other Areas of Behaviour - All Subjects

The first hypothesis of this study stated that:

There will be a direct mutual relationship between change in drinking behaviour and change in other areas of behaviour (health, work, family relationships, and social activities), in the total sample of alcoholics studied,

a) As drinking behaviour improves (severity of problem decreases), behaviour in other areas will also improve.

b) If drinking behaviour does not improve (remains the same or worsens), other behaviour will also not improve.

It may be helpful to look at these expectations in terms of the four-fold tables which will be used for analysis:

<table>
<thead>
<tr>
<th>DRINKING BEHAVIOUR</th>
<th>OTHER BEHAVIOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>Not Improved</td>
</tr>
<tr>
<td>Improved</td>
<td>A</td>
</tr>
<tr>
<td>Not Improved</td>
<td>C</td>
</tr>
</tbody>
</table>

If there were perfect correspondence, all cases would fall into cells A and D. This, however, is unlikely to occur in reality, and lesser degrees of relationship would be expected as follows:5
Examination of the data for all subjects together (experimental and control groups combined) shows a clear-cut tendency for change in drinking behaviour and change in other areas of behaviour (on all five indices) to vary together. For example, the relationship between change in drinking behaviour and change in health appears as follows:
### TABLE 8: Interrelationship Between Change in Drinking Behaviour and Change in Health for All Subjects

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>55 (43)*</td>
<td>39 (51)</td>
<td>94</td>
</tr>
<tr>
<td>Not Improved</td>
<td>12 (24)</td>
<td>41 (29)</td>
<td>53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>67</td>
<td>80</td>
<td>147</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 16.9 \text{ ** d.f. 1: } p < .001 \]

*Expected frequencies if the null hypothesis were true are enclosed in parentheses.

**\chi^2 values computed for this table and all succeeding tables were computed using a formula incorporating Yates' correction for continuity, since in many cases expected frequencies were small. This formula is given in J. P. Guilford, *Fundamental Statistics in Psychology and Education* (New York: McGraw-Hill Book Company, 1956), p. 237.

It can be seen that the cells where change in each case is in the same direction are larger than expected according to the null hypothesis, and the other cells smaller than expected. This difference is significant at better than the .05 level, which has been chosen as the level of certainty. Thus it can be concluded that a person who improves in drinking behaviour is more likely to improve in health than one who does not, and **vice versa**. Similarly, a person who does not improve
in one area is not as likely to improve in the other.

The same relationship is evident in the cross-tabulations of change in drinking behaviour against change in work, family responsibility, and leisure time activities. Because these results are so similar, the actual tables are not presented here, but included as TABLES 16 - 19 of APPENDIX A. In order to compare the strength of relationship in each case, however, TABLE 9 compares $X^2$ values for these tables.

TABLE 9: Comparison of Chi-Squared Values* for Tables Showing Interrelationships Between Change in Drinking Behaviour and Change in Other Areas of Behaviour for All Subjects

<table>
<thead>
<tr>
<th>Area of Behaviour</th>
<th>Chi-Squared Value</th>
<th>Probability**</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Health</td>
<td>16.9</td>
<td>$p &lt; .001$</td>
<td>148</td>
</tr>
<tr>
<td>2) Work</td>
<td>11.8</td>
<td>$p &lt; .001$</td>
<td>148</td>
</tr>
<tr>
<td>3) Family responsibility</td>
<td>9.5</td>
<td>$p &lt; .01$</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>18.0***</td>
<td></td>
<td>148</td>
</tr>
<tr>
<td>4) Financial responsibility</td>
<td>4.6</td>
<td>$p &lt; .05$</td>
<td>148</td>
</tr>
<tr>
<td>5) Leisure time activities</td>
<td>46.5</td>
<td>$p &lt; .001$</td>
<td>148</td>
</tr>
</tbody>
</table>

**X^2 values were computed using a formula incorporating Yates' correction for continuity.

**This is the probability of such a distribution occurring by chance.

***These are mocked values, assuming the sample size for this index to be the same as for other indices. See the discussion of this in the next section below.
It is clear from the above table that a statistical relationship exists in each case, taking the .05 level as the level of confidence. It is also evident that there are differences in the degree of relationship between the various areas of rehabilitation. The greatest degree of relationship is seen between change in drinking behaviour and change in leisure time activities ($X^2 = 46.5$), a lesser degree of relationship appears in the cases of health, work, and family responsibility ($X^2 = 16.9$, 11.8, and 18.0, respectively). A still lesser degree of relationship is indicated between change in drinking behaviour and change in financial responsibility ($X^2 = 4.6$). It is important to note, however, that the use of chi-squared values does not permit a precise numerical comparison between degrees of relationship in each case; it merely enables us to see the relative strength of association. We cannot say, for instance, that the relationship between changes in drinking behaviour and leisure time activities ($X^2 = 46.5$) is ten times that between changes in drinking behaviour and financial responsibility ($X^2 = 4.5$). On the other hand, we can be fairly certain that the former is more pronounced than the latter.

Whether these apparent differences in the strength of relationship between change in drinking behaviour and change in various other areas of functioning are in fact real differences, or might be accounted for by the nature of the indices used, or the possibility of change in each area (see p. 70) will be discussed in Chapter V, where an attempt
is made to interpret the results of analysis.

The conclusion of this portion of the analysis is therefore that we must reject the null hypothesis, and regard Hypothesis I, which suggests a relationship between change in drinking behaviour and change in other areas of behaviour, as substantiated. Further, there appears to be a different degree of relationship depending on the specific area of behaviour involved.

V. Comparison Between Experimental and Control Groups on Degree of Interrelationship Between Change in Drinking Behaviour and in Other Areas of Behaviour

The analysis now proceeds to examine the possible differential effects of treatment at the Foundation on the relationships established above. It was hypothesized that such treatment would tend to increase the degree of relationship:

The relationship between change in drinking behaviour and change in other areas of behaviour is more likely to be present in those persons who have had treatment at the Foundation (experimental group) than in those persons who have not had such treatment (control group).

This relationship will be tested in the same manner as above, by constructing and examining four-fold tables and by comparing chi-squared values. One difficulty should be pointed out, however. Sub-sample sizes of the experimental and control groups are not equal, and therefore it is not legitimate to compare chi-squared values computed on these different sized sub-groups. Theoretically, the same relationship
could exist in two cases, but in one of them the sample size might not be sufficient to establish statistical significance. Two groups of figures will therefore be presented: chi-squared values computed on real figures (to establish statistical significance), and chi-squared values computed on mock tables constructed by inflating each table to the same size (to enable comparison of degree of relationship). Thus TABLE 10 presents a comparison of real and mock chi-squared values for experimental and control groups separately, for tables showing the interrelationship between change in drinking and in other areas of behaviour:

Looking first of all at the real values, TABLE 10 shows that when the sample is broken down into experimental and control groups, and relationships are examined for each group separately, the distributions are not significant at the .05 level of confidence in several cases. Examination of the individual four-fold tables, however, indicates that in every case there is a tendency in the direction expected in the light of Hypothesis I. 7

Comparing the experimental and control groups utilizing the mock values shows differences in the degree of relationship in the expected direction. That is, there is a lesser degree of relationship in the control group on every index, although in a couple of cases (family responsibility and financial responsibility) the difference is not large. Real chi-squared values for the control group indicate a statistically
### TABLE 10: Comparison of Chi-Squared Values* for Tables Showing Interrelationships Between Change in Drinking Behaviour and Change in Other Areas of Behaviour for Experimental and Control Groups

<table>
<thead>
<tr>
<th>Area of Behaviour</th>
<th>Chi-Squared Values</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental Group</td>
<td>Control Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Real</td>
<td>Mock</td>
<td>Real</td>
</tr>
<tr>
<td></td>
<td>$X^2$ N</td>
<td>$X^2$ N</td>
<td>$X^2$ N</td>
</tr>
<tr>
<td>1) Health</td>
<td>17.3 86</td>
<td>21.5 100</td>
<td>(0.8)** 61</td>
</tr>
<tr>
<td>2) Work</td>
<td>8.9 88</td>
<td>10.8 100</td>
<td>(1.6) 59</td>
</tr>
<tr>
<td>3) Family responsibility</td>
<td>5.0 51</td>
<td>12.5 100</td>
<td>(2.8) 35</td>
</tr>
<tr>
<td>4) Financial responsibility</td>
<td>(2.3) 89</td>
<td>2.8 100</td>
<td>(0.2) 59</td>
</tr>
<tr>
<td>5) Leisure time activities</td>
<td>31.7 87</td>
<td>37.6 100</td>
<td>13.2 61</td>
</tr>
</tbody>
</table>

* $X^2$ values were computed using a formula incorporating Yates' correction for continuity.

**Values in parentheses (in the cases of real values) are not significant at the .05 level of confidence.

significant relationship in only one instance, leisure time activities. Thus, it would appear at this point that Hypothesis II is confirmed, that treatment at the Foundation does make a difference in increasing the likelihood that a person will improve in both drinking behaviour and in other areas of behaviour at the same time.
VI. The Effect of Alcoholics Anonymous Attendance

It is not legitimate to make such an inference from the data at this point, however. It will be remembered from Chapter III that one of the important variables found to account for part of the difference in the extent of rehabilitation between experimental and control groups was attendance at Alcoholics Anonymous. More members of the experimental group had attended Alcoholics Anonymous regularly, and part of the difference had to be attributed to this factor rather than to treatment at the Foundation. Since the two types of treatment were shown to have similar effects on rehabilitation, it is quite conceivable that they might have a similar effect on the relationships demonstrated above.

It will be necessary, then, to break down the above comparison on the additional variable of Alcoholics Anonymous attendance. Because the sub-samples produced by this division are rather different in size (ranging from 6 to 58), mock tables will be constructed with the same sub-sample size within each index, and chi-squared values computed on these. These values must only be considered relative, since they are inflated and statistical significance levels cannot legitimately be attached to them. TABLE 11 presents this comparison:
TABLE 11: Comparison of Chi-Squared Values* for Mock Tables Showing Interrelationships Between Change in Drinking Behaviour and Change in Other Areas of Behaviour for Experimental and Control Groups According to Alcoholics Anonymous Attendance

<table>
<thead>
<tr>
<th>Areas of Behaviour</th>
<th>Chi-Squared Values (Mock Tables)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental, A. A.**</td>
</tr>
<tr>
<td>1) Health</td>
<td>17.0</td>
</tr>
<tr>
<td>2) Work</td>
<td>5.2</td>
</tr>
<tr>
<td>3) Family responsibility</td>
<td>5.3</td>
</tr>
<tr>
<td>4) Financial responsibility</td>
<td>0.0</td>
</tr>
<tr>
<td>5) Leisure time activities</td>
<td>33.1</td>
</tr>
</tbody>
</table>

*X^2 values were computed using a formula incorporating Yates' correction for continuity.

**Those regarded as having A. A. treatment are those who had attended more than 10 A. A. meetings since first coming to the Foundation.

In examining the above table, it must first of all be noted that these data must be approached with special caution, since partitioning the sample in this way produces quite small sub-samples with small expected frequencies in many cells. For instance, there are only 12 persons in the control group who attended Alcoholics Anonymous, and
only 6 of these register on the index "family responsibility." It would not be proper, therefore, to attach too much weight to individual figures, but overall tendencies can safely be examined.

An examination of the individual four-fold tables indicates that there is a difference in the expected direction in 18 out of 20 cases, although in several cases the difference is small. The differences are particularly small for those who did not have treatment from either the Foundation or Alcoholics Anonymous (control group, non-A. A.). TABLE 11 shows that the chi-squared values for tables on each index for these persons with no treatment from either resource are smaller than values for those persons having one type of treatment and/or the other. Thus having some treatment, either from the Foundation or from Alcoholics Anonymous, appears to increase the likelihood of persons showing changes in other areas of behaviour which parallel changes in drinking behaviour.

Looking at this table for the effect of treatment from Alcoholics Anonymous, it can be seen that this treatment appears to increase the degree of relationship between change in drinking behaviour and change in other areas of behaviour, in both the experimental and control groups, except in the case of financial responsibility, where values are too small to draw reliable conclusions.

Foundation treatment, on the other hand, appears to affect the degree of relationship only in the case of those persons who do not also
attend Alcoholics Anonymous. No consistent trend can be established in comparing those in the experimental and control groups who have also attended A. A. meetings regularly. However, for those who did not attend A. A., treatment received from the Foundations seems to increase the degree of relationship, except in the case of family responsibility, where the chi-squared values are too small to draw reliable conclusions.

This finding, that Foundation treatment increases the likelihood that individuals will show changes in other areas of their behaviour which parallel changes in drinking behaviour, is analogous to the finding reported in Chapter III, that Foundation treatment appeared to be effective in increasing the degree of rehabilitation only in those cases where the individual involved did not also attend Alcoholics Anonymous.

Thus some of the relationship which was attributed above to the effect of Foundation treatment must be allowed to be a result of treatment received from Alcoholics Anonymous rather than of treatment from the Alcoholism Foundation. It can be concluded, therefore, that treatment from these two resources appears to have a similar effect on the relationship hypothesized in this paper.

VII. Summary

The preceding chapter has presented the results of an
examination of the relationship between change in drinking behaviour and change in other areas of behaviour, by analyzing a series of four-fold cross-tabulations. The four indices of change in drinking behaviour used previously were reduced to one composite index, by taking the weight of evidence on three indices. Five indices were taken as representative of change in other spheres of life, and the composite index of change in drinking behaviour was tabulated against them. Since it was desirable to use four-fold tables, the categories of "Improved," "No Change," and "Deteriorated" used earlier were combined into two categories, "Improved" and "Not Improved."

An examination of the individual tables and calculation of chi-squared values for each substantiated Hypothesis I. Taking the total sample, those who improved in drinking behaviour (i.e. their severity of problem decreased) were more likely to improve in other areas of behaviour than those who did not; and conversely if they did not improve. Further, this degree of interrelationship was found to vary depending on the specific area of behaviour involved. It was greatest in the case of leisure time activities, somewhat less in health, work, and family responsibility, and still less in financial responsibility.

In order to test Hypothesis II, the experimental and control groups were examined separately. This hypothesis was confirmed in that there was a greater degree of the above relationship shown in the experimental than in the control group.
Since it had been found earlier that the experimental and control groups differed on the proportion of their members who had attended Alcoholics Anonymous regularly, and since it was conceivable that A. A. treatment could have a similar effect to Foundation treatment, the sample was then broken down further according to Alcoholics Anonymous attendance. It was found that this difference did in part account for the difference between experimental and control groups. Specifically, there was no difference attributable to Foundation treatment in the case where the person had attended a substantial number of Alcoholics Anonymous meetings since coming to the Foundation. In those persons who did not attend A. A. regularly, though, Foundation treatment did appear to increase the relationship between improvement in drinking behaviour and improvement in other areas of behaviour. Thus it was concluded that the two treatment resources, the Alcoholism Foundation and Alcoholics Anonymous, operate in a similar way to increase the hypothesized relationship.

Chapter V will examine further the meanings and implications of the results reported above.
FOOTNOTES: Chapter IV

1(+) refers to "improved," (0) refers to "no change," and (—) refers to "deteriorated."

2 TABLES 13-15 of APPENDIX A list the chi-squared values for each individual cross-tabulation.

3 In spite of using only two categories of change, some expected frequencies were still very small, and four-fold tables made possible the use of Yates' correction for continuity, employed extensively below.

4 Some very recent follow-up research similar to that reported here, which is not written up in detail yet, uses categories which discriminate between these two types of "No Change." Gerhart Saenger and Donald Gerard, "A Follow-Up Study of Patients Seen in Clinics Associated With the North American Association of Alcoholism Programs," in Selected Papers Delivered at the Fourteenth Annual Meeting of the North American Association of Alcoholism Programs (Washington: North American Association of Alcoholism Programs, 1963).

5 Another way of stating these expectations would be that percentage-wise (discounting the effect of marginal totals) A > B, A > C, D > C, D > B.

6 Since the data comprise a large number of tables, representative examples are included in the body of this chapter, and other tables given in Appendix A.

7 Since relationships in each case are in the same direction, individual cross-tabulations are not presented here.
I. The Problem Under Investigation

The frame of reference for the present research endeavour involved two important emphases in the thinking of social scientists about human behaviour. The first of these emphases was on the holistic nature of personality, and therefore on the integration of those many diverse acts which go together to make up an individual's behaviour. Many psychological theorists stress the importance of considering the way in which a person's behaviour in one area of life impinges upon all other aspects of his experience. The second related emphasis is that man must be considered not as a closed system, but as an open system in relation to his environment, both in its social and non-social aspects. And both of these emphases are taken to be equally important in the study of "normal" functioning (or health) and of "abnormal" functioning (or illness).

Since alcoholism is often considered an illness, these same principles should be important in the understanding of this phenomenon. Various theories about the nature of alcoholism, and therefore different treatment approaches are based upon this point of view. It is thought to
be quite important to think of the alcoholic not merely as a person who drinks to excess, but as a complex individual whose physical and mental health must be taken into account, as well as his functioning in vocational pursuits, family activities, and in general social relationships. Thus treatment programmes for the alcoholic seek to do many things in addition to inducing him to stop drinking: his whole nature and adjustment to life in various spheres comes into view. The organization studied here, the Alcoholism Foundation of British Columbia, is a case in point of a treatment clinic which subscribes to this philosophy.

The general aim of the research reported here was to test this underlying assumption about the nature of alcoholism, by examining the extent to which changes produced in an alcoholic's drinking behaviour are accompanied by (and possibly related to) similar changes in other aspects of behaviour. The first hypothesis was as follows:

**Hypothesis I:** There will be a direct mutual relationship between change in drinking behaviour and change in other areas of behaviour (health, work, family relationships, and social activities), in the total sample of alcoholics studied.

a) As drinking behaviour improves (severity of problem decreases), behaviour in other areas will also improve.

b) If drinking behaviour does not improve (remains the same or worsens), other behaviour will also not improve.

Further, it was thought that although a number of alcoholics show improvement in their behaviour over a period of time without having
treatment, the tendency for this improvement in drinking behaviour to be associated with the other changes hypothesized would be greatest in those cases where the individual had undergone treatment desired to secure both sorts of change. Thus a further hypothesis was constructed as follows:

Hypothesis II: The relationship between change in drinking behaviour and change in other areas of behaviour is more likely to be present in those persons who have had treatment at the Foundation (experimental group) than in those persons who have not had such treatment (control group).

II. Methods of Research

The data chosen for use in testing the above hypotheses were obtained from a follow-up study designed to evaluate the effectiveness of the treatment programme of the Alcoholism Foundation of British Columbia.

The research design involved a comparison of the extent of rehabilitation which had taken place over a period of time in two groups of alcoholics, one of which had received treatment from the Foundation while the other had not. The experimental group was composed of persons who had undergone more than five treatment sessions at the Foundation, and the control group was selected from persons who had approached the Foundation regarding treatment but who had not remained for more than four treatment sessions. The
study was retrospective, in that a sample of alcoholics who had once attended the Foundation were interviewed, and were questioned regarding their behaviour both at the time they first came to the Foundation and at the time of interview.

Interviews were designed to secure two major types of data, information concerning the extent of rehabilitation which had occurred, and information regarding control factors on which the experimental and control groups were desired to be similar. Any comparison of rehabilitation between the two groups would, of course, be dependent on the similarity of persons contained in each. A detailed interview schedule was constructed in consultation with the Foundation staff, and various measures of rehabilitation were constructed. These measures sought to ascertain the extent to which the respondent's behaviour and attitudes had changed between the time of first contact with the Foundation and the time of interview. Six relevant areas of behaviour were delimited:

1. Drinking behaviour
2. Health (physical and emotional)
3. Behaviour in the area of work
4. Social interaction in the family
5. Social activities
6. Insight in problems associated with drinking

The sample to be interviewed was comprised of 214 persons,
and an extensive procedure of tracing finally enabled information to be gathered on 155 of these.

III. The Extent of Rehabilitation Attributable to Foundation Treatment

With the aid of IBM key-punching and computer tabulation, the interview results were analyzed. Examination of the results on thirteen indices of rehabilitation chosen for examination showed that roughly one-half of all subjects had improved to some extent between the time they first visited the Foundation and time of interview.

When experimental and control groups were compared, it was found that a consistently greater percentage of experimental group subjects had improved. These differences were fairly small in some areas of behaviour (work, family, and social activities) and were larger in other areas (drinking behaviour, health, and insight). An assessment of overall improvement made by the interviewers indicated that approximately 20% more of the subjects in the experimental than in the control group had improved.

It was found, however, that a certain proportion of this greater improvement in the experimental group must be attributed to two major differences between the two groups. Members of the experimental group were somewhat better motivated to be rehabilitated, and had attended more Alcoholic Anonymous meetings since Foundation contact.
After controlling for these factors, it was found that the extent of rehabilitation attributable to treatment at the Alcoholism Foundation was between 10% and 15%. That is, Foundation treatment was found to increase an individual's chances of showing some improvement in his behaviour by 10% to 15%.

IV. The Interrelationship of Areas of Rehabilitation

Methods of further analysis

The thirteen indices of rehabilitation used earlier were reduced to six, one index of change in drinking behaviour, and five indices of change in other areas of behaviour, as follows:

1. Health
2. Work
3. Family responsibility
4. Financial responsibility
5. Leisure time activities

Two categories of change on each index were used, "Improved" and "Not Improved." This permitted the use of four-fold tables to examine the interrelationship between change in drinking behaviour and change in other areas of behaviour. Each cross-tabulation was examined, and chi-squared values were calculated.

Hypothesis I

Cross-tabulations utilizing the total sample (experimental and
control groups combined) substantiated Hypothesis I. Those who improved in drinking behaviour (i.e., their severity of problem decreased) were more likely to improve in all other areas of behaviour than those who did not. Similarly, those who did not improve in drinking behaviour were more likely not to improve in other areas of behaviour.

Thus the tabulation of various indices of rehabilitation against change in drinking behaviour indicated that the parallel changes in various areas which had been seen in the total group of subjects were in fact parallel changes in the behaviour of individuals. It is, of course, a further step in reasoning to draw from this the inference that these changes are causally related to one another. That is, it is conceivable that an individual might improve in drinking behaviour and might also improve in his general level of occupational performance, for instance, without there being a necessary relationship between the two. However, a theoretical understanding of human behaviour as documented in the introductory chapter has led to the conclusion that this statistical association may indeed indicate some degree of relationship. It is unlikely that in every case improvement in health, or work, or family relationships, etc., would be related as cause or effect to change in drinking behaviour, but it is also unlikely that these are in no instance related. The alcoholism literature suggests many ways in which an alcoholic’s drinking behaviour can be related to his functioning in other spheres of life, either as cause or effect.
Thus it seems reasonable to regard Hypothesis I as being substantiated: that a person's internal integration and relationship to his environment impinge upon his drinking behaviour, and the drinking pattern which develops in turn impinges upon his functioning both internal and external. Alcoholism is here viewed as an example of the interrelationships posited by Karl Menninger in speaking about mental illness in general:

We cannot rely upon a patient to tell us just what is wrong or wherein his integration is failing.... A person's relationship with the outside world has begun to fail, and this failure is related to his internal integrations, which ought to be able to manage things, but can't. If he loses his job, he may lose his wife; if he loses his wife his heart may break. If he keeps his job he may develop an ulcer, and if he develops an ulcer he may strike down his neighbour and go to jail.

Such is the complicated and delicate network of interdependency.¹

It was also observed that although there was a relationship between drinking behaviour and each of the five other areas of behaviour distinguished, there were considerable differences in the strength of this relationship. The greatest degree of relationship was seen with regard to leisure time activities, a lesser degree of relationship appeared in the cases of health, work, and family responsibility, and a still lesser degree of relationship was shown with respect to financial responsibilities. Caution is warranted in interpreting these results, however.
First of all, the relative strengths of interrelationship were indicated by the use of chi-squared values, which do not permit a precise numerical comparison. Certain conclusions about the nature of data available suggested that the use of more sophisticated statistical techniques was not warranted. For one thing, as mentioned earlier, the degree of change observed in each area of behaviour was dependent upon the potential change which could take place in that area. Although it seems reasonable to assume that all subjects had a drinking problem which could bear some degree of improvement, this is not necessarily the case in other areas of behaviour. For instance, a man's drinking behaviour might not have yet reached the point where it had seriously affected his occupational performance, or his fulfilment of familial responsibility. In such cases, improvement in drinking behaviour would not be accompanied by improvement in these other areas, since there was no discernable scope for improvement in these areas.

Another difficulty in comparing the degree of relationship between change in drinking behaviour and change in other areas stems from the nature of the indices used. Each index of change was constructed separately with a view to adequately measuring behaviour in the particular area involved, and there is no way of knowing whether or not different indices are comparable to one another. Examination of one index in particular, change in leisure time activities, indicates that this index may have a built-in bias towards indicating a relationship
with drinking behaviour. One of the major indications of an unsatisfactory use of leisure time was the predominance of drinking. It is not surprising, therefore, that this was the index which seemed to be most related to drinking behaviour.

These kinds of considerations suggest that the data available in this study do not permit the drawing of any reliable conclusions regarding differential degrees of relationship between change in drinking behaviour and change in other aspects of life. It is not possible to conclude with any degree of certainty that the specific differences seen are real differences.

On the other hand, certain theoretical considerations would suggest that the effects of drinking would be differentially distributed between various areas of life. Certain aspects of behaviour might be susceptible to deterioration sooner than others in the process of alcoholism. Similarly, when an individual begins to recover from alcoholism, some areas of functioning might be more easily recoverable than others. The area of health might be the most immediate area of change, for here the patient is not as dependent upon external factors as in other areas. Unless long-term brain damage or other physical deterioration has taken place, an individual's health usually responds fairly quickly to the cessation of heavy drinking, particularly if medical treatment has been received.

In the other four areas of behaviour delimited above, work, family
relationships, financial responsibility and leisure time activities, two other factors involved could make positive change more difficult. The first factor is that a person's functioning in these spheres of life is a result of attitudes and habits which have developed over some period of time and would, therefore, be quite difficult to change. For instance, in the area of relationships with other people, an alcoholic who has become over a period of many years' heavy drinking suspicious and intolerant of others, and very isolated socially, could not easily change this pattern even if he were to stop drinking for some length of time.

The other factor contributing to the difficulty of effecting changes in these other areas of life is the degree to which other persons are involved. For instance, an unforgiving wife can make positive changes in family relationships very difficult for the recovered alcoholic. One patient known to the author has achieved several years' sobriety, and although his wife lives in the same house with him she still refuses to cohabit with him or even acknowledge his existence in more than a perfunctory way. Similarly, if an alcoholic has established himself with a very poor work record after having being dismissed from many jobs as a result of heavy drinking, it is very difficult for him to even obtain any sort of work.

The differential effects of these factors and possibly others in various aspects of life experience would lead to different degrees of relationship with drinking behaviour. The data of the present study
were not sufficiently precise to draw any conclusions on such factors, but this would be a fruitful area for further research. For example, an analysis of case histories might discern a typical sequence of events in the rehabilitation of an alcoholic.

**Hypothesis II**

The second hypothesis stated that the relationship established above would be greater in those cases where the individual had undergone treatment for his alcohol problem (experimental group) than when he had not (control group). In the same manner as above, four-fold tables were constructed and chi-squared values were compared, but separately for members of experimental and control groups. This analysis showed that Hypothesis II was also confirmed, for each case there was a greater relationship evident in the experimental group.

Controlling for the effect of different amounts of Alcoholics Anonymous attendance, however, showed that the greater relationship could be attributed to treatment from the Foundation only in those cases where the person had not also attended Alcoholics Anonymous regularly. But for those persons who had no other treatment, treatment at the Alcoholism Foundation does appear to be effective in increasing the degree to which patients improving in drinking behaviour also show other positive changes in other aspects of their lives. Thus, if the Foundation is concerned to achieve overall rehabilitation rather than just sobriety per se, as is its stated aim, then it appears to be effective to some
extent in achieving this.

V. **Another Treatment Resource: Alcoholics Anonymous**

The data which tested the effect of treatment at the Foundation and "treatment" received from Alcoholics Anonymous (the result of regular attendance at A. A. meetings) indicate a similar effect on the hypothesized relationships. That is, each seems to contribute to an increased degree of correspondence between improvement in drinking behaviour and improvement in other areas of behaviour. It is not surprising that this is the case, since despite various other differences in emphasis, certain similar beliefs are held by Alcoholics Anonymous members and professionals engaged in alcoholism treatment. The philosophy of Alcoholics Anonymous involves a view of "recovery" as being more than mere sobriety alone. There is a strong emphasis on the changing of attitudes, and therefore of behaviour. This emphasis can be seen in the Twelve Steps which expound the basic principles of A. A.

1. We admitted we were powerless over alcohol— that our lives had become unmanageable.

2. Came to believe that a Power greater than ourselves could restore us to sanity.

3. Made a decision to turn our will and our lives over to the care of God as we understood Him.

4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.

6. Were entirely ready to have God remove all these defects of character.

7. Humbly ask Him to remove our shortcomings.

8. Made a list of all persons we had harmed, and became willing to make amends to them all.

9. Made direct amends to such people wherever possible, except when to do so would injure them or others.

10. Continued to take personal inventory and when we were wrong promptly admitted it.

11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.

12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.

One of the basic elements of the "spiritual" programme outlined in these twelve steps is the importance of putting a right social relationships. There is a stress, too, on the necessity for self examination with reference to general attitudes to life. Although this is stated in rather different terms than would be the therapeutic principles of a professional treatment clinic such as that of the Alcoholism Foundation, it can be seen that there is a definite emphasis on the importance of the reformation of "the whole man."

It should be pointed out, however, that the data at hand do not permit a comparison of the relative effectiveness of these two treatment
resources, A. A. and the Foundation. Each seems to be effective to some degree in increasing the relationship between change in drinking behaviour and change in other areas of behaviour, but no comparison can legitimately be made between them. One obvious reason for the lack of comparability is that equal amounts of treatment from each are not being compared; in fact, it would be rather difficult to determine what would constitute equal amounts of treatment from such different therapeutic organizations. But just as each resource seemed to be effective in increasing the degree of rehabilitation in the sample of patients interviewed, there appears to be a similar effect with regard to the relationships established above.

VI. Relationship of Findings to Previous Research

It was noted in the first chapter that there had been previous studies which had used criteria other than drinking behaviour to assess improvement in alcoholics as a result of treatment, and which had attempted to relate these changes to drinking behaviour. Although the methodology in each case varied, similar findings were reported in each of the five studies cited, that change in the other areas of behaviour measured corresponded to change in drinking, i.e., that if a person improved in drinking behaviour he was more likely to improve in other spheres than one who had not improved in drinking behaviour, and conversely. In only one study, which has not been
reported in detail yet, was change between pre-treatment and post-treatment periods over a broad range of behaviour tabulated against change in drinking behaviour, as was done here.

The uniqueness of the present study stems not only from the use of a similar mode of analysis on a different group of patients exposed to treatment in a different setting, but also from the extension of this analysis to a comparison between treated and untreated patients, by the utilization of experimental and control groups. It was found that the relationship established between improvement in drinking and in other behaviour was more likely to be present in those persons who had had treatment from the Alcoholism Foundation of B.C. In addition, it was found that "treatment" received from Alcoholics Anonymous seemed to have a similar effect. Thus the research reported here has enabled some tentative conclusions to be drawn regarding the differential effects of treatment, from various sources, on the relationship which had been established previously.

VII. General Conclusions

The two major hypotheses of this study have been substantiated. It was found that there is an interrelationship between changes which take place in an alcoholic's drinking behaviour and in the other aspects of his life which were measured. This relationship was found to be greater in those cases where the person had undergone treatment
for his alcohol problem, either from the Alcoholism Foundation or Alcoholics Anonymous. It is evident, however, that the data which were available for this present study permitted the reaching of only the most general conclusions. For instance, it was observed that there were very different degrees of interrelationship depending on the specific area of behaviour involved, but it was not considered legitimate to draw any definite conclusions about this. This would be one fruitful area for further research.

Many other research questions could be envisaged stemming from the above conclusion, which could make a further contribution to the understanding of such a vast topic as has been approached here. For instance, one could hypothesize that any measure of sobriety achieved by an alcoholic would be more long-term and stable if accompanied by changes in other areas of behaviour. Similarly, one could speculate that the degree of improvement in drinking behaviour (using a finer breakdown than "improved" versus "not improved" as was used here), would be greater in those cases where there was improvement evident in other areas. As is so often the case with such research as has been undertaken here, the number of further questions raised outweigh the number of questions answered.


3 See footnotes 14-18 of CHAPTER I.

BIBLIOGRAPHY


Smith, Eugenia V. "Field Interviewing of Problem Drinkers," Social Work, IV (October, 1959), 80-86.


APPENDIX A

ADDITIONAL TABLES
TABLE 12: Percentage Distributions of Selected Matched Characteristics for Experimental and Control Groups and Comparison with 1960 Intake

<table>
<thead>
<tr>
<th>Group</th>
<th>Age Group</th>
<th>Marital Status</th>
<th>Occupation</th>
<th>Employment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21 - 30</td>
<td>Single</td>
<td>Professional</td>
<td>Unemployed</td>
</tr>
<tr>
<td>Control and</td>
<td>31 - 40</td>
<td>Married</td>
<td>White Collar</td>
<td>Employed</td>
</tr>
<tr>
<td>Experimental N = 100</td>
<td>41 - 50</td>
<td>Separated</td>
<td>Skilled</td>
<td></td>
</tr>
<tr>
<td>each</td>
<td>51 - 60</td>
<td>Divorced</td>
<td>Unskilled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>Widowed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Common Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of 1960 Intake</td>
<td>8</td>
<td>(not reported)</td>
<td>3</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td></td>
<td>19</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td></td>
<td>52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td></td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td></td>
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<td>23</td>
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<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>58</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 13: Comparison of Chi-Squared Values for Tabulations of Four Indices of Change in Drinking Behaviour Against Change in the Area of Work

<table>
<thead>
<tr>
<th>Index</th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking problem -- IA</td>
<td>16.2</td>
<td>14.5</td>
<td>28.1</td>
</tr>
<tr>
<td>Abstinence</td>
<td>4.3</td>
<td>(0.6)*</td>
<td>4.6</td>
</tr>
<tr>
<td>Liquor offences</td>
<td>(3.1)</td>
<td>(3.2)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Composite index</td>
<td>10.0</td>
<td>4.8</td>
<td>14.5</td>
</tr>
</tbody>
</table>

*Figures in parentheses indicate a non-significant distribution, taking the .05 level of significance.

TABLE 14: Comparison of Chi-Squared Values for Tabulations of Four Indices of Change in Drinking Behaviour Against Change in the Area of Family Responsibility

<table>
<thead>
<tr>
<th>Index</th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking problem -- IA</td>
<td>13.0</td>
<td>7.3</td>
<td>19.3</td>
</tr>
<tr>
<td>Abstinence</td>
<td>(3.5)*</td>
<td>(0.5)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Liquor offences</td>
<td>7.0</td>
<td>(1.0)</td>
<td>(2.6)</td>
</tr>
<tr>
<td>Composite index</td>
<td>6.4</td>
<td>4.6</td>
<td>10.8</td>
</tr>
</tbody>
</table>

*Figures in parentheses indicate a non-significant distribution, taking the .05 level of significance.
TABLE 15: Comparison of Chi-Squared Values for Tabulations of Four Indices of Change in Drinking Behaviour Against Change in the Area of Leisure Time Activities

<table>
<thead>
<tr>
<th>Index</th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking problem - IA</td>
<td>43.5</td>
<td>26.3</td>
<td>72.3</td>
</tr>
<tr>
<td>Abstinence</td>
<td>30.4</td>
<td>(2.6)*</td>
<td>27.1</td>
</tr>
<tr>
<td>Liquor offences</td>
<td>(1.0)</td>
<td>(1.7)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Composite index</td>
<td>34.4</td>
<td>16.7</td>
<td>50.0</td>
</tr>
</tbody>
</table>

*Figures in parentheses indicate a non-significant distribution, taking the .05 level of significance.

TABLE 16: Interrelationship Between Change in Drinking Behaviour and Change in Work for All Subjects

<table>
<thead>
<tr>
<th>WORK</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>27 (19)*</td>
<td>67 (75)</td>
<td>94</td>
</tr>
<tr>
<td>Not Improved</td>
<td>2 (10)</td>
<td>51 (43)</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>80</td>
<td>147</td>
</tr>
</tbody>
</table>

\[ X^2 = 11.8^{**}; \text{d.f.} 1; p < .001 \]

*Expected frequencies if the null hypothesis were true are enclosed in parentheses.

**X^2 values for this table were computed using a formula incorporating Yates' correction for continuity.
TABLE 17: Interrelationship Between Change in Drinking Behaviour and Change in Family Responsibility for All Subjects

<table>
<thead>
<tr>
<th>FAMILY RESPONSIBILITY</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>41 (34)*</td>
<td>20 (27)</td>
<td>61</td>
</tr>
<tr>
<td>Not Improved</td>
<td>7 (14)</td>
<td>18 (11)</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>38</td>
<td>86</td>
</tr>
</tbody>
</table>

\[ X^2 = 9.5^{**}: \text{ d.f. } 1: p < .01 \]

*Expected frequencies if the null hypothesis were true are enclosed in parentheses.

**\(X^2\) values for this table were computed using a formula incorporating Yates' correction for continuity.
TABLE 18: Interrelationship Between Change in Drinking Behaviour and Change in Financial Responsibility for All Subjects

<table>
<thead>
<tr>
<th>FINANCIAL RESPONSIBILITY</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>14 (10)*</td>
<td>82 (86)</td>
<td>96</td>
</tr>
<tr>
<td>Not Improved</td>
<td>1 (5)</td>
<td>51 (47)</td>
<td>52</td>
</tr>
</tbody>
</table>

Total 15 133 148

\[ \chi^2 = 4.6^{**} \text{ d.f. 1: } p < .05 \]

*Expected frequencies if the null hypothesis were true are enclosed in parentheses.

**\chi^2 \text{ values for this table were computed using a formula incorporating Yates' correction for continuity.}
TABLE 19: Interrelationship Between Change in Drinking Behaviour and Change in Leisure Time Activities for All Subjects

<table>
<thead>
<tr>
<th>LEISURE TIME ACTIVITIES</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>76 (56)*</td>
<td>18 (38)</td>
<td>94</td>
</tr>
<tr>
<td>Not Improved</td>
<td>12 (32)</td>
<td>42 (22)</td>
<td>54</td>
</tr>
<tr>
<td>Total</td>
<td>88</td>
<td>60</td>
<td>148</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 46.5^{**} \text{; d.f. 1; } p < .001 \]

*Expected frequencies if the null hypothesis were true are enclosed in parentheses.

**\chi^2 values for this table were computed using a formula incorporating Yates' correction for continuity.
APPENDIX B

THE INTERVIEW SCHEDULE
Key to Questions

I Control Factors

1. Socio-economic: face sheet, 37, 40, 44
2. Motivation: 4, 5, 6, 7, 8, 10
4. Treatment other than at the Foundation: 19, 20, 34

II Extent of Rehabilitation

1. Drinking behaviour: 18, 25, 26, 27, 30, 31, 35, 36, 86
2. Health: 13, 14, 15, 16, 17, 32, 33, 84
3. Work: 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 85
4. Family: 48, 49, 52, 53, 63, 64, 65, 66, 67, 68, 69, 70, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 89, 90
5. Social activities: 50, 51, 54, 55, 56, 57, 58, 59, 61, 62, 87, 88
6. Insight: 71, 72, 91
7. Summary: 92

III Treatment at the Foundation

9

IV Descriptive Information for the Foundation

1, 2, 11, 12, 28, 29, 93
PART I

INTERVIEW SCHEDULE FACE SHEET

001 Code: Group 0. No answer 1. Experimental 2. Control

002-004 Code: Identification Number ___ ___ ( )

005 Code: Card Number 1

006 Code: Time Period
   0. No answer
   1. 1961
   2. 1960
   3. 1959

007 Code: Age
   0. No answer
   1. Under 20
   2. 21 - 30
   3. 31 - 40
   4. 41 - 50
   5. 51 - 60
   6. 60 & over

008 Code: Marital Status
   0. No answer
   1. Single
   2. Married
   3. Common Law
   4. Separated
   5. Divorced
   6. Widowed
   7. Married more than once

009 Code: Religion
   0. No answer
   1. Protestant
   2. Catholic
   3. Other or no religion
010 Code: Occupational Category
0. No answer
1. Professional
2. White Collar
3. Skilled
4. Unskilled
5. Unemployable

011 Code: Occupational Status
0. No answer
1. Employed
2. Unemployed
3. Unemployable, pensioned, etc.

012 Code: Education
0. No answer
1. Less than 8 years
2. 8 - 11
3. 12 - 13
4. University

013 Code: Family History of Alcoholism
0. No answer
1. Yes
2. No

014 Code: Court Record
0. No answer
1. Yes
2. No

015 Code: Source of Referral
0. No answer
1. Physician
2. Wife, relatives or friends
3. A. A.
4. Ex-patient
5. Self
6. Oakalla or P.M.H.
7. Social Assistance
8. Employer
9. Other
<table>
<thead>
<tr>
<th>Treatment at Foundation (for check)</th>
<th>No</th>
<th>From-To</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Medical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Counselling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Group Therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Psychiatric Eval.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Antabuse or Temp.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PART II
I. CONTACT WITH FOUNDATION AND OTHER RESOURCES

(1) First I would like to ask you a few questions about your contact with the Foundation. Could you look back to the very first time you heard about the Foundation, and tell me how you heard about it; in other words, how did you find out that there was such a place as the Foundation?

016 Code: How patient heard about Foundation? (1)

0. No answer
1. Physician
2. Wife or parents
3. Other relatives or friends
4. A. A.
5. Ex-patient
6. Advertisement
7. Other

(2) You heard about the Foundation for the first time from ............... , could you now tell me a little more how you actually came to the Foundation; that is, did someone introduce you to them, did someone recommend you go there, or what happened?

017 Code: How patient came to Foundation? (2)

0. No answer
1. Physician
2. Wife, relatives or friends
3. A. A.
4. Ex-patient
5. Self-referral
6. Oakalla & P.M.H.
7. Social Assistance
8. Employer
9. Other

(3) When was this? ____________________________
2. Could you tell me some of your reasons for coming to the Foundation?

Areas of personal concern:

<table>
<thead>
<tr>
<th>Areas</th>
<th>Seriousness of Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild Threat</td>
</tr>
<tr>
<td>a. Work</td>
<td></td>
</tr>
<tr>
<td>b. Family</td>
<td></td>
</tr>
<tr>
<td>c. Phys. Health</td>
<td></td>
</tr>
<tr>
<td>d. Emot. Health</td>
<td></td>
</tr>
<tr>
<td>e. Other</td>
<td></td>
</tr>
</tbody>
</table>

(5) In addition to these reasons, what pressures were put upon you to come to the Foundation?

a. None
b. Specify

<table>
<thead>
<tr>
<th>Source</th>
<th>Degree of Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slight</td>
</tr>
<tr>
<td>a. Wife</td>
<td></td>
</tr>
<tr>
<td>b. Employer</td>
<td></td>
</tr>
<tr>
<td>c. Social Asst.</td>
<td></td>
</tr>
<tr>
<td>d. Other Welfare Agencies</td>
<td></td>
</tr>
<tr>
<td>e. Probation Officer</td>
<td></td>
</tr>
<tr>
<td>f. Other</td>
<td></td>
</tr>
</tbody>
</table>
3.

018 Code: Interviewer's assessment of degree of self-instigation (4 & 5)

0. No answer
1. None, apart from external pressures
2. Slight (some awareness, but pressures mainly external)
3. Moderate (relatively equal self- and other-pressures
4. Great (only slight external pressures)
5. Complete (no external pressures)

(6) You have given me some of your reasons for going to the Foundation; could you now tell me what you expected to happen at the Foundation?

(probe)

019 Code: Interviewer's assessment of attitudes (6)

0. No answer
1. Manipulative (was looking for handout, etc.)
2. Unrealistic (was looking for "magical" solution)
3. Neutral (did not know -- no explicit expectations)
4. Realistic (willing to "do his part")

7) How much did you really think the Foundation would be able to help you with your alcohol problem?

020 Code: Extent of help expected (7)

0. No answer
1. To a great extent
2. To some extent
3. To no extent
At the time you first contacted the Foundation, suppose the doctor or counsellor had suggested you be admitted to a Provincial Hospital for a specific drying out period, of, let's say, 30 days; would you have been willing to accept this as part of your treatment?

a. Yes  b. No

If no, for what reasons:

a. Involved in other treatment (h)

b. Could not leave work (h)

c. Could not leave family (h or l - probe)

d. Important persons did not want me to go to such a place (l)

e. Would not have been admitted (h or l - probe)

f. Have tried before and treatment failed (neutral)

g. Thought they could not help me (l)

h. Would not like to go to such a place because of "stigma" (l)

i. Had heard too many adverse reports about such a place (l)

j. Did not want to be associated with persons at such a place (l)

k. Did not think my problem was big enough to warrant treatment (l)

l. Other

021 Code: Interviewer's assessment of motivation (8)

0. No answer
1. High (yes, or no because of physical impossibility)
2. Low (no for other reasons)
Could you now tell me what kind of treatments you received at the Foundation.

<table>
<thead>
<tr>
<th>Treatment:</th>
<th>Year</th>
<th>Period</th>
<th>Number of Treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Medical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Counselling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Psychiatric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Group Sessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Antabuse or Temposil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

022 Code: Length of Treatment (9)

0. No answer
1. Less than 2 weeks
2. 2-4 weeks
3. 1-3 months
4. 4-6 months
5. 6-12 months
6. over 12 months

Code: Type and Number of Treatments (9)

<table>
<thead>
<tr>
<th>Code</th>
<th>Treatment</th>
<th>Type</th>
<th>None</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-19</th>
<th>20 &amp; over</th>
</tr>
</thead>
<tbody>
<tr>
<td>023</td>
<td>Medical</td>
<td>N.A.</td>
<td>None</td>
<td>1-4</td>
<td>5-9</td>
<td>10-14</td>
<td>15-19</td>
<td>20 &amp; over</td>
</tr>
<tr>
<td>024</td>
<td>Counsel.</td>
<td>N.A.</td>
<td>None</td>
<td>1-4</td>
<td>5-9</td>
<td>10-14</td>
<td>15-19</td>
<td>20 &amp; over</td>
</tr>
<tr>
<td>025</td>
<td>Psychi.</td>
<td>N.A.</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>026</td>
<td>Resid.</td>
<td>N.A.</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>027</td>
<td>Gp. Sess.</td>
<td>N.A.</td>
<td>None</td>
<td>1-4</td>
<td>5-9</td>
<td>10-14</td>
<td>15-19</td>
<td>20 &amp; over</td>
</tr>
<tr>
<td>028</td>
<td>Antabuse or Temp.</td>
<td>N.A.</td>
<td>None</td>
<td>under 2 wks</td>
<td>2-4 wks</td>
<td>1-3 mos</td>
<td>4-6 mos</td>
<td>6 mos &amp; over</td>
</tr>
</tbody>
</table>
(10) (Most people after they have been in treatment for some time) 
(Some people after they have come to the Foundation once or 
twice) stop coming for a variety of reasons. For instance, 
some move away, some return to their old place of work, while 
some others feel they (have benefited enough) (could not 
benefit) from the programme offered. I wonder, could you 
tell me what prevented you from (continuing treatment) 
(undergoing treatment)?

a. Still in treatment (1)
b. Counsellor felt intensive treatment no longer needed (L)
c. Leaving town - work reasons (L)
d. Leaving town - family reasons (L or F - probe)
e. Could not get time off work (L or F - probe)
f. Important persons did not like my coming (L or F - probe)
g. Was inconvenient to travel to clinic (F)
h. Thought I had benefited enough (Could not benefit) (F)
i. Did not like services offered (If pt. went to other 
place L, if not F)
j. Did not like clinic personnel (F)
k. Did not think my problem was big enough to need 
treatment (F)
l. Did not like to come without paying bill (F)
m. Other

029 Code: Reasons for Stopping Treatment (10)

0. No answer
1. Still in treatment
2. Legitimate reasons for stopping treatment
3. Fabricated excuses for stopping treatment
Most people who come to the Foundation at one time or another have certain feelings about the helpfulness of the kind of treatment they received. Could you tell me a little about how you felt, first about the treatment and then about the people you met?

First, the treatment itself, apart from the people who gave it:

**Code: Patient's Feelings re Treatment (11)**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>030 Medical</td>
<td></td>
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</tr>
<tr>
<td>031 Counselor</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>032 Psychiatrist</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>033 Interview</td>
<td></td>
<td></td>
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<tr>
<td>034 Residence</td>
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<tr>
<td>035 Group Sessions</td>
<td></td>
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</tr>
<tr>
<td>036 Antabuse</td>
<td></td>
<td></td>
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<tr>
<td>037 or Temp.</td>
<td></td>
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</tbody>
</table>

Could you give me some of your reasons for saying this?

When you came to the Foundation you probably met a variety of people. What were your feelings about them?

**Code: Feelings re People (12)**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>036 Doctor</td>
<td></td>
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<tr>
<td>037 Counsellor</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>038 Psychiatrist</td>
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<tr>
<td>039 Housekeeper</td>
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<tr>
<td>040 Clerical S:</td>
<td></td>
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</tbody>
</table>

Could you explain why you say this?
(13) Could you look back to the time before you came to the Foundation, and tell me something about your general physical health?

Did you suffer from:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Details</th>
<th>Frequency</th>
<th>Duration</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Headaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>b. Gen. Fatigue</td>
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<tr>
<td>c. Sleeplessness</td>
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<tr>
<td>d. Stomach Upsets</td>
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<tr>
<td>e. Sudden Weight Changes</td>
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<tr>
<td>f. Liver Disease</td>
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<tr>
<td>g. Acute Illnesses</td>
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<tr>
<td>h. Chronic Illn.</td>
<td></td>
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</tr>
<tr>
<td>i. Symptoms assoc. w. heavy drinkg. Blackouts</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Shakes</td>
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<tr>
<td>Halluzinations</td>
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<tr>
<td>D. T's.</td>
<td></td>
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</tr>
<tr>
<td>Convulsions</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Head Injuries</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

041 Code: Patient's Assessment (13) (see page 13)

042 Code: Doctor's Assessment of physical health T1 (13)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor
9. (14) Now I wonder if you could also tell me a few things about your emotional health at the time you came to the Foundation.

Were you bothered by:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Details</th>
<th>Frequency</th>
<th>Duration</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

a. Nervousness

b. Tensions

c. Worries, Anxieties & Fears

d. Unmanageable Moods (Depressions, etc.)

e. Restlessness

f. Loss of orientation (Explain)

g. Other

043 Code: Patient's Assessment (14) (See page 13)

044 Code: Doctor's Assessment of emotional health T1 (14)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor
At the present time do you suffer from:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Details</th>
<th>Frequency</th>
<th>Duration</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
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</tr>
<tr>
<td>c.</td>
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<tr>
<td>d.</td>
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<tr>
<td>e.</td>
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<td>f.</td>
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<td>g.</td>
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<tr>
<td>h.</td>
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</tr>
<tr>
<td>i.</td>
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</tbody>
</table>

045 Code: Patient's Assessment (15) (See page 13)

046 Code: Doctor's Assessment of physical health T2 (15)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor
At the present time, are you bothered by:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Details</th>
<th>Frequency</th>
<th>Duration</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Nervousness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Tensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Worries, Anxieties &amp; Fears</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>d. Unmanageable Moods (Depressions, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Restlessness</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>f. Loss of orientation (Explain)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>g. Other</td>
<td></td>
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</tr>
</tbody>
</table>

047 Code: Patient's Assessment (16) (See page 13)

048 Code: Doctor's Assessment of emotional health T2 (16)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

049 Code: Patient's Assessment of Change in Health

050 (13 & 15) (14 & 16) (See page 13)
Doctor's Assessment

051 Code: Assessment of change in Physical Health (13 & 15)

0. No answer
1. Much better
2. Somewhat better
3. Same
4. Somewhat worse
5. Much worse

052 Code: Assessment of change in Emotional Health (14 & 16)

0. No answer
1. Much better
2. Somewhat better
3. Same
4. Somewhat worse
5. Much worse

053 Code: Assessment of relationship between present drinking behaviour and change in physical and emotional health. (13, 14, 15, 16)

0. No answer
1. To a great extent
2. To some extent
3. To no extent
Patient's Assessment

041 Code: Assessment of Physical Health at T1 (13)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

043 Code: Assessment of Emotional Health at T1 (14)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

045 Code: Assessment of Physical Health at T2 (15)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

047 Code: Assessment of Emotional Health at T2 (16)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

049 Code: Assessment of Change in Physical Health (13 & 15)

0. No answer
1. Much better
2. Somewhat better
3. Same
4. Somewhat worse
5. Much worse

050 Code: Assessment of Change in Emotional Health (14 & 16)

0. No answer
1. Much better
2. Somewhat better
3. Same
4. Somewhat worse
5. Much worse
054 Code: Change in Physical Health (T1-T2), Patient's Assessment (13 & 15)

0. 1. 2. 3. 4. 5. 6. 7.
No ans. +3 +2 +1 0 -1 -2 -3

055 Code: Change in Emotional Health (T1-T2), Patient's Assessment (14 & 16)

0. 1. 2. 3. 4. 5. 6. 7.
No ans. +3 +2 +1 0 -1 -2 -3

056 Code: Change in Physical Health (T1-T2), Doctor's Assessment (13 & 15)

0. 1. 2. 3. 4. 5. 6. 7.
No ans. +3 +2 +1 0 -1 -2 -3

057 Code: Change in Emotional Health (T1-T2), Doctor's Assessment (14 & 16)

0. 1. 2. 3. 4. 5. 6. 7.
No ans. +3 +2 +1 0 -1 -2 -3

(17) To what extent do you think that your feeling . . . . now has something to do with your present drinking behaviour?

058 Code: Patient's Assessment of relationship between drinking and health (17)

0. No answer
1. To a great extent
2. To some extent
3. To no extent

(18) To what extent is drinking presently a problem to you as compared to the time you first came to the Foundation?

059 Code: Patient's Assessment of Change in Drinking Problem (18)

0. No answer
1. Much more severe problem
2. More severe problem
3. Same problem
4. Less severe problem
5. Much less severe problem
6. No problem
Other than the Foundation, have you ever gone to a doctor or any other agency or place regarding problems with alcohol:

**Treatment Before T₁**

<table>
<thead>
<tr>
<th>a. Yes</th>
<th>b. No</th>
<th>c. Don't remember/No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Period</td>
<td>No. of Treatments</td>
</tr>
</tbody>
</table>

If Yes:

- b. Gen. Hosp. (det. svs.)
- d. Private Physician
- e. Clergyman
- f. Therapist (Ind. or Grp)
- g. A. A.

**Code: Treatment before T₁ (19)**

<table>
<thead>
<tr>
<th>060</th>
<th>In-patient (a-c)</th>
<th>1</th>
<th>2-3</th>
<th>4 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>061</td>
<td>Out-patient (d-f)</td>
<td>1-5</td>
<td>6-10</td>
<td>11 or more</td>
</tr>
<tr>
<td>062</td>
<td>A. A. (g)</td>
<td>1-5</td>
<td>6-10</td>
<td>11 or more</td>
</tr>
</tbody>
</table>

**Treatment between T₁ and T₂**

<table>
<thead>
<tr>
<th>a. Yes</th>
<th>b. No</th>
<th>c. Don't remember/No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Period</td>
<td>No. of Treatments</td>
</tr>
</tbody>
</table>

If Yes:

- b. Gen. Hosp. (det. svs.)
- d. Private Physician
- e. Clergyman
- f. Therapist (Ind. or Grp)
- g. A. A.

**Code: Treatment between T₁ & T₂ (20)**

<table>
<thead>
<tr>
<th>063</th>
<th>In-patient (a-c)</th>
<th>1</th>
<th>2-3</th>
<th>4 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>064</td>
<td>Out-patient (d-f)</td>
<td>1-5</td>
<td>6-10</td>
<td>11 or more</td>
</tr>
<tr>
<td>065</td>
<td>A. A. (g)</td>
<td>1-5</td>
<td>6-10</td>
<td>11 or more</td>
</tr>
</tbody>
</table>
II DRINKING HISTORY

A. Drinking

You came to the Foundation because .......... thought the Foundation might be helpful to you. Did you at that time consider your drinking a problem?

a. Yes  
b. No

How serious did you think it was?

Perhaps you could tell me a little more about this?

066 Code: Insight into extent of problem at T₁ (21)

0. No answer  
1. Serious problem  
2. Moderate problem  
3. No problem

(22) If problem:

Since when did you consider your drinking a problem?

067 Code: Length of drinking problem (22)

0. No answer  
1. Under 1 year  
2. 1 - 2 years  
3. 3 - 5 years  
4. 6 - 10 years  
5. Over 10 years
17. Now I would like to ask you two things:
1. What did you think were some of the reasons for your drinking at the time you first came to the Foundation? and
2. What do you now think some of your reasons were.

What did you think your reasons were at the time you came to the Foundation?

Elaborate:

What do you now think some of your reasons were?

068 Code: Interviewer's assessment of patient's insight, T₁ (23)
0. No answer
1. Great insight
2. Slight insight
3. No insight

069 Code: Interviewer's assessment of patient's insight, T₂ (24)
0. No answer
1. Great insight
2. Slight insight
3. No insight

070 Code: Change
0.  1.  2.  3.  4.  5.
No answer +2 +1 0 -1 -2
I'd now like to ask you a few things about your drinking pattern, both at the time you came to the Foundation and at the present. In order to help you describe it, I have a few specific questions.

First, around the time you came to the Foundation:

<table>
<thead>
<tr>
<th>A. With whom:</th>
<th>a. Solitary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Group</td>
</tr>
<tr>
<td></td>
<td>c. Both</td>
</tr>
<tr>
<td>B. Where:</td>
<td>a. At home</td>
</tr>
<tr>
<td></td>
<td>b. Outside home</td>
</tr>
<tr>
<td></td>
<td>c. Both</td>
</tr>
<tr>
<td>C. When:</td>
<td>a. Daily</td>
</tr>
<tr>
<td></td>
<td>b. Weekends</td>
</tr>
<tr>
<td></td>
<td>c. Periodic</td>
</tr>
<tr>
<td>D. Mornings:</td>
<td>a. Never</td>
</tr>
<tr>
<td></td>
<td>b. Seldom</td>
</tr>
<tr>
<td></td>
<td>c. Frequently</td>
</tr>
<tr>
<td>E. What:</td>
<td>a. Hard liquor</td>
</tr>
<tr>
<td></td>
<td>b. Beer</td>
</tr>
<tr>
<td></td>
<td>c. Wine</td>
</tr>
<tr>
<td></td>
<td>d. Commercial products</td>
</tr>
</tbody>
</table>

F. Quantity:

G. To what extent:         | a. Slightly intoxicated |
|                           | b. Drunk             |
|                           | c. Unconscious       |

|                         | b. Shakes             |
|                         | c. Hallucinations     |
|                         | d. D. T.'s            |
|                         | e. Convulsions        |

Other Details:
What is your drinking pattern now?

**A. With whom:**
- a. Solitary
- b. Group
- c. Both

**B. Where:**
- a. At home
- b. Outside home
- c. Both

**C. When:**
- a. Daily
- b. Weekends
- c. Periodic

**D. Mornings:**
- a. Never
- b. Seldom
- c. Frequently

**E. What:**
- a. Hard liquor
- b. Beer
- c. Wine
- d. Commercial products

**F. Quantity:**

**G. To what extent:**
- a. Slightly intoxicated
- b. Drunk
- c. Unconscious

**H. Consequences:**
- a. Blackouts
- b. Shakes
- c. Hallucinations
- d. D. T's
- e. Convulsions

**I. Completely sober**

**Other Details:**

**071 Code:** Interviewer's assessment of change in drinking problem (25 & 26)

0. No answer
1. Much more severe problem
2. More severe problem
3. Same problem
4. Less severe problem
5. Much less severe problem
6. No problem (completely sober)
(27) How would you compare your drinking problem now with that you had at the time you came to the Foundation?

072 Code: Patient's assessment of own drinking problem (27)

0. No answer
1. Much more severe problem
2. More severe problem
3. Same problem
4. Less severe problem
5. Much less severe problem
6. No problem

(28) If changes, what would you say has mainly brought about these changes?

073 Code: Patient's assessment of most important agent of change (28)

0. No answer
1. In-patient treatment other than Foundation
2. Out-patient treatment other than Foundation
3. A. A.
4. Foundation
5. Self
6. Wife, family
7. Other
8. Not applicable

(29) If changes, what would you say was next most important?

074 Code: Patient's assessment of second most important agent of change (29)

0. No answer
1. In-patient treatment other than Foundation
2. Out-patient treatment other than Foundation
3. A. A.
4. Foundation
5. Self
6. Wife, family
7. Other
8. Not applicable

If others how did these help?
If self, how have these changes come about?
B. Abstinence

I wonder if you could go back in your mind about 8 years and tell me how many periods of complete abstinence you have had since then?

(That is starting in January 1955)

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Length (wks)</th>
<th>Reasons (look for enforcement)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

(N.B.:) Complete abstinence means periods of at least one week without drinking. Mark division between $T_1$ & $T_2$.

075 Code: No. of weeks abstinent during a 6-month period before $T_1$ (30)

- 0. No answer
- 1. None
- 2. 1-4
- 3. 5-9
- 4. 10-14
- 5. 15-19
- 6. 20 & over

076 Code: No. of weeks abstinent during a 6-month period before $T_2$ (31)

- 0. No answer
- 1. None
- 2. 1-4
- 3. 5-9
- 4. 10-14
- 5. 15-19
- 6. 20 & over

154 Code: Change

<table>
<thead>
<tr>
<th>0.</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No answer</td>
<td>+4</td>
<td>+3</td>
<td>+2</td>
<td>+1</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
<td>-4</td>
</tr>
</tbody>
</table>
C. Drugs

(32) Have you ever taken any drugs, tranquilizers, etc., to help you stop drinking?
   a. Yes   b. No

   If Yes,
   a. Of what kind and type was the medication?
   b. How often did you take it?
   c. Who prescribed it?
   d. When was this?

(33) Do you now take drugs of any kind?
   a. Yes   b. No

   If yes,
   a. Of what kind and type are they?
   b. How often do you take them?
   c. Who prescribes these drugs for you?
   d. Why do you take these drugs?

   e. Are they necessary for you to stay sober?
   a. Yes   b. No

077 Code: Interviewer's assessment of patient's use of drugs at T2 (32 & 33)
   0. No answer
   1. Takes no drugs
   2. Takes tranquilizers occasionally
   3. Takes tranquilizers routinely, but is not dependent
   4. Dependent on tranquilizers
   5. Dependent on other drugs

(34) Have you ever taken Antabuse or Temposil including the A. or T. you took at the A. F. (if applicable)

078 Code: Patient's use of Antabuse or Temposil (34)
   0. No answer
   1. Yes
   2. No
### D. Court Record

**Have you ever been arrested?**

**a. Yes**

**b. No**

*If yes, (If over 10 arrests, list only major offences and No. of liquor offences in 6-month periods preceding T1 and T2)*

<table>
<thead>
<tr>
<th>Date</th>
<th>Charge</th>
<th>Drinking Involved</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
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</tbody>
</table>

(N.B: Mark division between T1 & T2)

**079 Code:** No. of offences involving liquor in 6-month period preceding T1 (35)

- 0. No answer
- 1. None
- 2. 1-2
- 3. 3-5
- 4. 6 and over

**080 Code:** No. of offences involving liquor in 6-month period preceding T2 (36)

- 0. No answer
- 1. None
- 2. 1-2
- 3. 3-5
- 4. 6 and over

**155 Code:** Change

- 0. 1. 2. 3. 4. 5. 6. 7.
- No answer +3 +2 +1 0 -1 -2 -3

**081 Code:** Identification and Card No.

**085**
<table>
<thead>
<tr>
<th>(37)</th>
<th>(38)</th>
<th>(39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your usual occupation</td>
<td>As what are you employed at the moment?</td>
<td>Since when?</td>
</tr>
<tr>
<td><strong>Specific Occup.</strong></td>
<td><strong>Specific Occup.</strong></td>
<td></td>
</tr>
<tr>
<td>a. Prof.</td>
<td>Prof.</td>
<td></td>
</tr>
<tr>
<td>b. W.C.</td>
<td>W.C.</td>
<td></td>
</tr>
<tr>
<td>c. Skilled</td>
<td>Skilled</td>
<td></td>
</tr>
<tr>
<td>d. Unsk.</td>
<td>Unsk.</td>
<td></td>
</tr>
<tr>
<td>e. Unemploy-able (why)</td>
<td>Unemploy-able (why)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td></td>
</tr>
</tbody>
</table>

**086 Code: Employment status T₂ (38 & 39)**

- 0. No answer
- 1. Employed
- 2. Unemployed
- 3. Unemployable, pensioned, etc.

<table>
<thead>
<tr>
<th>(40)</th>
<th>(41)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the time you first came to the Foundation, as what were you employed then?</td>
<td>How long have you held this job?</td>
</tr>
<tr>
<td>a. Professional</td>
<td></td>
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<tr>
<td>b. White Collar</td>
<td></td>
</tr>
<tr>
<td>c. Skilled</td>
<td></td>
</tr>
<tr>
<td>d. Unskilled</td>
<td></td>
</tr>
<tr>
<td>e. Unemployable (why)</td>
<td></td>
</tr>
<tr>
<td>f. Unemployed</td>
<td></td>
</tr>
</tbody>
</table>

**087 Code: Employment Status T₁ (40 & 41)**

- 0. No answer
- 1. Employed
- 2. Unemployed
- 3. Unemployable, pensioned, etc.

**159 Code: Change**

- 0. 1. 2. 3.
- NA +1 0 -1
I have already asked you about your occupation at the present and at the time you came to the Foundation. Could I now ask you for a brief rundown of your employment history.

## Before Foundation Contact

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Type of Job</th>
<th>Reasons for Changing</th>
<th>Getting along with fellow workers &amp; boss</th>
<th>Satisfaction was job in accordance with abilities</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

(N.B.) If eight or more jobs held, list only major ones and number held of others)
### After Foundation Contact

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Type of Job</th>
<th>Reasons for Changing</th>
<th>Getting along with fellow workers &amp; boss</th>
<th>Satisfaction - was job in accordance with abilities</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

(44) How many years of schooling did you have: ______________________

(45) Have you had any special vocational training?

Elaborate:
(46) How would you evaluate your own satisfaction regarding your work experience before you contacted the Foundation?

088 Code: Patient's evaluation of work experience before $T_1$ (46)

0. No answer
1. Very satisfactory
2. Satisfactory
3. Unsatisfactory
4. Very unsatisfactory

State Reasons

(47) How would you rate your work satisfaction since you came to the Foundation?

089 Code: Patient's evaluation of work experience after $T_1$ (47)

0. No answer
1. Very satisfactory
2. Satisfactory
3. Unsatisfactory
4. Very unsatisfactory

State Reasons

090 Code: Change No answer +3 +2 +1 0 -1 -2 -3
Interviewer's Assessment of Employment Stability before $T_1$ (37, 40, 41 & 42)

0. No answer
1. Very stable (1 maj. occupation with few changes and without periods of unemployment.)
2. Stable (1-3 maj. occupations, but several different jobs held within each one.)
3. Unstable (Several maj. occupations, many different jobs, many shorter periods of unemployment.)
4. Very unstable (No maj. occupation, many diff. jobs, many prolonged periods of unemployment.)

Interviewer's Assessment of Employment Stability after $T_1$ (37, 38, 39 & 43)

0. No answer
1. Very stable
2. Stable
3. Unstable
4. Very unstable

Change

0. No answer +3 +2 +1 0 -1 -2 -3

Interviewer's assessment of appropriateness of jobs held in accordance with abilities, education and training, before $T_1$ (37, 40, 42, 44 & 45)

0. No answer
1. Appropriate
2. Not appropriate

Interviewer's assessment of appropriateness of jobs after $T_1$ (37, 38, 43 & 45)

0. No answer
1. Appropriate
2. Not appropriate

Change

0. No answer +1 0 -1
097 Code: Interviewer's Assessment of Relationships with fellow workers and boss before T₁ (43)
0. No answer
1. Good
2. Poor

098 Code: Interviewer's assessment of relationships with fellow workers and boss after T₁ (44)
0. No answer
1. Good
2. Poor

099 Code: Change
0. 1. 2. 3.
No answer +1 0 -1

100 Code: Interviewer's overall comparison of patient's working history from before T₁ to after T₁, taking into consideration: (a) Stability, (b) Appropriateness of job, (c) Relationships on job, (d) Patient's assessment of work satisfaction.
0. No answer
1. Greatly improved
2. Improved
3. No change
4. Deteriorated
5. Greatly deteriorated
### IV FAMILY HISTORY

#### A. General

I would now like to ask you a few questions regarding your family and living arrangements. (For the following 4 questions do present first, then go back and ask about past)

(48) What is your present marital status?

<table>
<thead>
<tr>
<th>Present (48)</th>
<th>Past (49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Single</td>
<td>a. Single</td>
</tr>
<tr>
<td>b. Married</td>
<td>b. Married</td>
</tr>
<tr>
<td>c. Common-law</td>
<td>c. Common-law</td>
</tr>
<tr>
<td>d. Separated</td>
<td>d. Separated</td>
</tr>
<tr>
<td>e. Divorced</td>
<td>e. Divorced</td>
</tr>
<tr>
<td>f. Widowed</td>
<td>f. Widowed</td>
</tr>
</tbody>
</table>

(50) In what type of accommodation are you presently living?

<table>
<thead>
<tr>
<th>Present (50)</th>
<th>Past (51)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Own house</td>
<td>a. Own House</td>
</tr>
<tr>
<td>b. Parent's accommodation</td>
<td>b. Parent's accommodation</td>
</tr>
<tr>
<td>c. Rented house</td>
<td>c. Rented house</td>
</tr>
<tr>
<td>d. Apartment or suite</td>
<td>d. Apartment or suite</td>
</tr>
<tr>
<td>e. Rooming or Boarding house</td>
<td>e. Rooming or Boarding house</td>
</tr>
<tr>
<td>f. Hotel</td>
<td>f. Hotel</td>
</tr>
<tr>
<td>g. Other</td>
<td>g. Other</td>
</tr>
</tbody>
</table>

(52) With whom are you living at this place?

<table>
<thead>
<tr>
<th>Present (52)</th>
<th>Past (53)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Wife only</td>
<td>b. Wife only</td>
</tr>
<tr>
<td>c. Children only</td>
<td>c. Children only</td>
</tr>
<tr>
<td>d. Parents</td>
<td>d. Parents</td>
</tr>
<tr>
<td>e. Other relatives</td>
<td>e. Other relatives</td>
</tr>
<tr>
<td>f. Friends</td>
<td>f. Friends</td>
</tr>
<tr>
<td>g. Alone</td>
<td>g. Alone</td>
</tr>
<tr>
<td>h. Other</td>
<td>h. Other</td>
</tr>
</tbody>
</table>
(54) Who is presently paying for the place in which you are living?

**Present (54)**  
- a. Self
- b. Wife
- c. Self & Wife
- d. Parents and/or other rel.
- e. Friends
- f. S. A.
- g. Other

**Past (55)**  
- a. Self
- b. Wife
- c. Self & Wife
- d. Parents and/or other rel.
- e. Friends
- f. S. A.
- g. Other

Could you now look back to the time just immediately before you came to the Foundation and tell me

(49) What your **marital status** then was?

(51) In what **type of accommodation** you were then living?

(53) With whom you were then living?

(55) Who was then paying for the accommodation?

(56) Roughly into what category does your own personal income fall at the present time?

(57) Into what category did your personal income fall at the time you came to the Foundation?

**Present (56)**  
- a. Under $1,000
- b. 1,000 - 1,499
- c. 1,500 - 1,999
- d. 2,000 - 2,499
- e. 2,500 - 2,999
- f. 3,000 - 3,999
- g. 4,000 - 4,999
- h. 5,000 & over

**Past (57)**  
- a. Under $1,000
- b. 1,000 - 1,499
- c. 1,500 - 1,999
- d. 2,000 - 2,499
- e. 2,500 - 2,999
- f. 3,000 - 3,999
- g. 4,000 - 4,999
- h. 5,000 & over
At the present time, does someone help you to meet your financial needs? That is, does your wife work, do you have outstanding loans, etc.

At the time you came to the Foundation, did someone help you to meet your financial needs? (Probe)

Present (58) Past (59)

a. No one a. No one
b. Wife (work) b. Wife (work)
c. Wife (independent income) c. Wife (independent income)
d. Parents d. Parents
e. Children e. Children
f. Other relatives or friends f. Other relatives or friends
g. Loans of any kind g. Loans of any kind
h. Unemployment Ins. h. Unemployment Ins.
i. Social Assistance i. Social Assistance
j. Other j. Other

Reasons: (probe)

During the time you went to the Foundation, what was the reaction of your family members or closest friends to your going there; that is, how did they support you emotionally?

Elaborate:

101 Code: Patient's assessment of support received (60)

0. No answer
1. Strong support
2. Mild support
3. Neutral
4. Opposition
Interviewer's Assessment

102 Code: Marital Status (48 & 49) taking into consideration (75) as well.

0. No answer

1. Improved (was separated, now reconciled; was separated, now divorced because wife's behaviour was detrimental to rehabilitation; lived common-law, now married)

2. Same or "neutral" change (no value judgement involved - was widowed, now remarried was single, now married was divorced, now remarried)

3. Deteriorated (was married, now separated due to drinking, was married, now divorced due to man's drink, was married or divorced, now living c.l.)

103 Code: Accommodation (50 & 51)

0. No answer

1. Improved (value judgement - better quality, movement from non-ownership to ownership)

2. Same or "neutral" change (no value judgement)

3. Deteriorated (value judgement - poorer quality, movement from ownership to non-ownership)

104 Code: Living with whom (52 & 53)

0. No answer

1. Improved (value judgement - applies to married men mostly)

2. Same or "neutral" change (no value judgement)

3. Deteriorated (value judgement - applies to married men mostly)
105 **Code:** Who is paying for accommodation (54 & 55)

0. No answer

1. Improved (value judgement - was unnecessarily dependent, now independent)

2. Same or "neutral" change

3. Deteriorated (value judgement - was independent, now unnecessarily dependent)

106 **Code:** Personal Income (56 & 57)

0. No answer

1. Improved (value judgement - marked upward change)

2. Same or "neutral" change

3. Deteriorated (value judgement - marked downward change)

107 **Code:** Being able to meet expenses by oneself (58 & 59)

0. No answer

1. Improved (If help needed in past, now help not needed)

2. Same or "neutral" change (No change - change in help from others not needed)

3. Deteriorated (If no help needed in past, but help now needed)
I would now like to ask you a few general questions about the way you spend your time. I wonder, could you give me a brief rundown of the major things you do during a typical month including days, evenings and the weekend?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Specify</th>
<th>When</th>
<th>How Often</th>
<th>With Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. House &amp; Garden</td>
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<tr>
<td>c. Children</td>
<td></td>
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<tr>
<td>d. Hobbies</td>
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<tr>
<td>e. T. V.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>f. Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Entertainment at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Sports or Social Clubs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Community Club Work; Relig. Activities</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>k. Entertainment outside home</td>
<td></td>
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</tr>
<tr>
<td>l. Driving</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>m. Visiting</td>
<td></td>
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</tr>
<tr>
<td>n. Drinking</td>
<td></td>
<td></td>
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<tr>
<td>o. Other</td>
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</tr>
</tbody>
</table>

Additional Details:
Could you now look back to the time you first came to the Foundation and tell me how you spent your time then?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Specify</th>
<th>When</th>
<th>How Often</th>
<th>With Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Work</td>
<td></td>
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<tr>
<td>b. House &amp; Garden</td>
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<tr>
<td>c. Children</td>
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<tr>
<td>d. Hobbies</td>
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<tr>
<td>e. T. V.</td>
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<tr>
<td>f. Reading</td>
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</tr>
<tr>
<td>g. Entertainment at home</td>
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<tr>
<td>h. Sports</td>
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<tr>
<td>i. Sports or Social Clubs</td>
<td></td>
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<tr>
<td>j. Community Club Work; Relig. Activities</td>
<td></td>
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<tr>
<td>k. Entertainment outside home</td>
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<tr>
<td>l. Driving</td>
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<tr>
<td>m. Visiting</td>
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</tr>
<tr>
<td>n. Drinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>o. Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Details:
108 Code: Typical month's activities, with emphasis on "leisure" time pursuits, at $T_2$ (61)

0. No answer

1. Constructive (balance of various activities, including social interaction)

2. Non-constructive (no balance of various activities, not enough social interaction, but no heavy drinking)

3. Destructive (Drinking is the major social activity)

109 Code: Typical month's activities with emphasis on "leisure" time pursuits before $T_1$ (62)

0. No answer

1. Constructive

2. Non-constructive

3. Destructive

110 Code: Change in activities: (61 & 62)

0. 1. 2. 3. 4. 5.

No answer +2 +1 0 -1 -2
B. For married or once married men only

So far we have covered quite a few areas in your life. May I now ask you a few questions about your relationships with your wife and children.

(63) How many children do you have? _____ (Check question)

<table>
<thead>
<tr>
<th>No.</th>
<th>Sex</th>
<th>Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

111 Code: Children

0. No answer
1. Yes
2. No

(64) Do you get to see much of your children?

Yes: (Elaborate)

No: (Elaborate)

(65) Has this changed since before you came to the Foundation?

How
For children living with father

(66) Are your children living with you?

112 Code: Children living with father (66)

0. No answer
1. Yes
2. No

(67) There are certain general areas in their children's lives in which father and mother share a general concern, and others which they feel are more the concern of one than the other. Who, at the present time, looks after the following areas in your home?

<table>
<thead>
<tr>
<th>Areas</th>
<th>Husband</th>
<th>Wife</th>
<th>Both</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Affections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Activities &amp; companions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. School activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(68) At the time immediately prior to your coming to the Foundation, who looked after the following areas then?

<table>
<thead>
<tr>
<th>Areas</th>
<th>Husband</th>
<th>Wife</th>
<th>Both</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Affections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. School activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(69) How would you say your relationship between you and your children is at the present?

(70) At the time you came to the Foundation, how was your relationship then?

113 Code: Father's assessment of relationship with children at T₂ (69)
   0. No answer
   1. Very good
   2. Good
   3. Poor
   4. Very poor

114 Code: Father's assessment of relationship with children at T₁ (70)
   0. No answer
   1. Very good
   2. Good
   3. Poor
   4. Very poor

115 Code: Change (69 & 70)
   0. 1. 2. 3. 4. 5. 6. 7.
   No answer +3 +2 +1 0 -1 -2 -3

(71) Would you say that your present drinking behaviour has anything to do with the relationship between you and your children?
   a. Yes  b. No  c. Can't say

(72) Would you say that at the time you came to the Foundation your drinking behaviour had anything to do with the relationship between you and your children?
   a. Yes  b. No  c. Can't say

116 Code: Interviewer's assessment of degree of insight at T₂ (71 & 72)
   0. No answer
   1. Great insight (Yes-Yes)
   2. Slight insight (can't say, can't say)
   3. No insight (no-no)
In a typical week, how many hours do you really involve yourself with your children; that is, take them for a drive, to a sports activity, play with them, look over their homework, etc.)

How was this at the time you came to the Foundation?

117 Code: Hours spent with children at $T_2$ (73)

0. No answer
1. None (hours)
2. 1-4
3. 5-9
4. 10-14
5. 15-19
6. 20 & over

118 Code: Hours spent with children at $T_1$ (74)

0. No answer
1. None (hours)
2. 1-4
3. 5-9
4. 10-14
5. 15-19
6. 20 & over

158 Code: Change

0. 1. 2. 3. 4. 5. 6. 7. 8. 9.
No answer +4 +3 +2 +1 0 -1 -2 -3 -4

119 Code: Interviewer's assessment of father's relationship with children, taking into account, (1) areas involved, (2) degree of insight, (3) time spent with children at $T_2$ (64, 67, 69, 71-73)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

120 Code: Interviewer's assessment of father's relationship with children, taking into account, (1) areas involved, (2) degree of insight, (3) time spent with children at $T_1$ (65, 68, 70, 71, 72, 74)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

121 Code: Change

0. 1. 2. 3. 4. 5. 6. 7.
No answer +3 +2 +1 0 -1 -2 -3
Husband-Wife Relationships

A little while ago you told me that you are now (married), (separated), (divorced), (living common-law), (widowed). Have there been any changes in your marital status over the past ten years, including periods of short (although not legal) separations?

a. Yes  
b. No

If yes, could you tell me when you changed your status, what the reasons were, etc.

<table>
<thead>
<tr>
<th>Changed Status</th>
<th>Time Period</th>
<th>Reasons</th>
<th>Wife Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>To</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.</td>
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<td></td>
<td></td>
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<tr>
<td>D.</td>
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<td></td>
</tr>
</tbody>
</table>

At the present time, how would you sum up your relationship with your wife, taking into consideration all areas of life.

In the month prior to your coming to the Foundation, how would you have then summed up your relationship with your wife.

122 Code: Patient's assessment of relationship with wife at T₂ (76)
- 0. No answer
- 1. Very good
- 2. Good
- 3. Poor
- 4. Very poor

123 Code: Patient's assessment of relationship with wife at T₁ (77)
- 0. No answer
- 1. Very good
- 2. Good
- 3. Poor
- 4. Very poor

124 Code: Difference between relationship with wife at T₁ & T₂ (76 & 77)
- 0. No answer
- 1. +3
- 2. +2
- 3. +1
- 4. 0
- 5. -1
- 6. -2
- 7. -3
At the present time, what interests do you and your wife have in common and share. In other words, what sort of things do you do together?

Just prior to your coming to the Foundation, what interests did you then have in common and share?

<table>
<thead>
<tr>
<th>T2 (78)</th>
<th>T1 (79)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Work around home</td>
<td>a. Work around home</td>
</tr>
<tr>
<td>b. Recreation in home</td>
<td>b. Recreation in home</td>
</tr>
<tr>
<td>c. Recreation outside home</td>
<td>c. Recreation outside home</td>
</tr>
<tr>
<td>d. Community and/or religious activities</td>
<td>d. Community and/or religious activities</td>
</tr>
<tr>
<td>e. Other</td>
<td>e. Other</td>
</tr>
</tbody>
</table>

125 Code: Number of areas in common at T2 (78)
0. No answer
1. None
2. 1
3. 2
4. 3
5. 4
6. 5

126 Code: Number of areas in common at T1 (79)
0. No answer
1. None
2. 1
3. 2
4. 3
5. 4
6. 5

127 Code: Change
0. 1. 2. 3. 4. 5. 6. 7. 8. 9.
No answer +4 +3 +2 +1 0 -1 -2 -3 -4
(80) Just as people have certain things in common and share, they also do have strong disagreements about certain issues. I wonder could you tell me over what issues you and your wife strongly disagree at the present time?

(81) At the time just prior to your first contact with the Foundation, over what issues did you then strongly disagree?

<table>
<thead>
<tr>
<th>T2 (80)</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Work</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>b. Leisure</td>
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<tr>
<td>c. Children</td>
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<tr>
<td>d. Relatives</td>
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<tr>
<td>e. Friends</td>
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<tr>
<td>f. Sex</td>
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<tr>
<td>g. Drinking</td>
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<tr>
<td>h. Other</td>
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</tr>
</tbody>
</table>

128 Code: Percentage of disagreements in applicable areas, T2 (80)

0. No answer
1. None
2. 0-25%
3. 26-50%
4. 51-75%
5. 76-100%

129 Code: Percentage of disagreements in applicable areas, T1 (81)

0. No answer
1. None
2. 0-25%
3. 26-50%
4. 51-75%
5. 76-100%

130 Code: Change (80 & 81)

0. 1. 2. 3. 4. 5. 6. 7. 8. 9.
No answer +4 +3 +2 +1 0 -1 -2 -3 -4
When people live together for a while they tend to take each other for granted and sooner or later one or the other feels he or she is not getting enough attention from the other. How do you feel about the amount of attention you are getting from your wife at the present? How does your wife feel about the amount of attention she is getting from you?

How were things in this regard around the time you came to the Foundation?

131 Code: Patient's assessment of attention received from wife at T₂ (82)
   0. No answer
   1. Enough
   2. Not enough

132 Code: Patient's assessment of attention received from wife at T₁ (83)
   0. No answer
   1. Enough
   2. Not enough

160 Code: Change
   0. 1. 2. 3.
   No answer +1 0 -1

133 Code: Patient's assessment of how wife feels about attention she is getting from husband at T₂ (82)
   0. No answer
   1. Enough
   2. Not enough

134 Code: Patient's assessment of how wife feels about attention she is getting from husband at T₁ (83)
   0. No answer
   1. Enough
   2. Not enough

161 Code: Change
   0. 1. 2. 3.
   No answer +1 0 -1

Details:
Interviewer's assessment of relationship between husband and wife; taking into consideration (1) marital status, (2) patient's assessment of relationship; (3) common interests; (4) areas disagreed upon; (5) attention; at $T_2$ (75, 76, 78, 80, 82)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

Interviewer's assessment of relationship between husband and wife; at $T_1$ (75, 77, 79, 81, 83)

0. No answer
1. Very good
2. Good
3. Poor
4. Very poor

Change

0. 1. 2. 3. 4. 5. 6. 7.

No answer +3 +2 +1 0 -1 -2 -3

Interviewer's assessment of patient's overall responsibility towards family members at $T_2$ (50, 54, 56, 58, 64, 67, 73, 75)

0. No answer
1. Very responsible
2. Somewhat responsible
3. Very irresponsible

Interviewer's assessment of patient's overall responsibility towards family members at $T_1$ (51, 55, 57, 59, 66, 68, 74, 75)

0. No answer
1. Very responsible
2. Somewhat responsible
3. Very irresponsible

Change

0. 1. 2. 3. 4. 5. 6. 7.

No answer +3 +2 +1 0 -1 -2 -3
General Assessment (to be asked of all respondents)

Now I would just like to ask you one more question. Taking into account all the areas we have now talked about, looking back to the time when you came to the Foundation and comparing it with the present time, in what areas would you say there has been a change in your life, regardless of what has brought about this change.

Patient's overall assessment:

<table>
<thead>
<tr>
<th>Code</th>
<th>General Health (84)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Work History (85)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Drinking History (86)</th>
<th>0.</th>
<th>No answer</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Leisure Time Pursuits (87)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Relationships with other people (88)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Relationship with wife (89)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Relationship with children (90)</th>
<th>0.</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.</td>
<td>Deteriorated</td>
</tr>
</tbody>
</table>
148 Code: Interviewer's assessment of patient's change in overall insight (91)

0. No answer
1. Much improved
2. Somewhat improved
3. Same
4. Somewhat worse
5. Much worse

149 Code: Interviewer's assessment of overall change (92)

0. No answer
1. Much improved
2. Somewhat improved
3. Same
4. Somewhat worse
5. Much worse

150 Code: Interviewer's assessment of part played by Foundation in change (93)

0. No answer
1. Great
2. Moderate
3. None

(94) Well, we have covered a large number of questions and quite a few areas of your life. Is there still anything important that you would like to tell me?

If not, I have asked you all I need to ask. I certainly would like to thank you very much for coming here and talking with me. Of course, as I have said before, all information contained in this interview schedule will be treated confidentially, and will not be released to anyone, other than in statistical form.
INTERVIEWER'S COMMENTS

Name of interviewer:
Date of interview:
Hour of interview:
Length of interview (to nearest 5 min.):
Place of interview:

151 Code: Rating on cooperation:

0. No answer
1. Excellent
2. Good
3. Fair
4. Poor
5. Inaccessible

152 Code: Rating on frankness:

0. No answer
1. Very frank
2. Moderately frank
3. Not frank

If cooperation is: fair, poor, or inaccessible, give conditions of respondent affecting interviewability:

Too drunk ____________
Too ill ____________
Too hostile ____________
Other, specify ____________

Other comments:

153 Code: Interview Completion:

0. No answer
1. Complete
2. Incomplete

If incomplete, which sections ________________

Why?
156 Code: Person interviewed

0. No answer
1. Self
2. Wife
3. Other collateral

157 Code: Place of interview

0. No answer
1. Respondent's home
2. Offices or hotel rooms
3. Jail
4. Mental Hospital
5. Other