

Long-Term Validity of The Measure of Treatment Potential:
a follow-up study of boys released from
Training Schools in Ontario

Jane Louise Blanchard

Submitted to the Department of
Criminology, University of
Ottawa, in partial fulfillment
of the requirements for the
degree of Master of Arts.

(Ottawa, 1971)



UMI Number: EC55148

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform EC55148
Copyright 2011 by ProQuest LLC
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

ACKNOWLEDGEMENTS

This thesis was prepared under the supervision of Professor T. G. Grygier, LL.M., Ph.D., of the Department of Criminology of the University of Ottawa.

The writer is indebted to Dr. Grygier for his continuous guidance throughout the study, from the formulation of the problem to the completion of the manuscript. The author would also like to thank Dr. J. B. Garner for his patience and for his assistance with the analysis of the data. The help of other members of the Department of Criminology is gratefully acknowledged. Miss Carol Herbert rendered an especially valuable service in the preparation of the manuscript.

For their co-operation in supplying part of the raw data on which this thesis is based, appreciation is extended to Mr. H. Garraway, Administrator of the Training Schools Division of the Ontario Department of Correctional Services, and his staff, and to Superintendent W. M. Harasym and members of the R.C.M.P. Investigation Branch.

TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
INTRODUCTION	1
I REVIEW OF THE LITERATURE	
Preamble	4
Descriptive Studies of Staff-Inmate Cleavage	5
A New Measure of the Cleavage-Harmony Dimension	9
Reliability and Validity of the Measure of Treatment Potential	15
The Criterion Problem	24
Summary	27
References	29
II RESEARCH DESIGN	
Description of the Original Sample	32
Collection of Recidivism Data	35
Classification of the Data	44
Experimental Hypotheses	58
References	63
III RESULTS	
Hypothesis One	64
Hypothesis Two	69
Hypothesis Three	77
IV DISCUSSION OF THE FINDINGS	
Behaviour Rating and Recidivism	83
Sociometric Acceptance and Recidivism	86
Age and Treatment Potential	95
Age and Recidivism	98
References	112
SUMMARY AND CONCLUSIONS	113
BIBLIOGRAPHY	119

APPENDICES

I	Information Sheet (Follow-up)	123
II	Administration and Scoring of the Sociometric and Behaviour Rating Questionnaires	125
III	Additional Tables and Figures	135
IV	Analysis of Generational Life Table Curves	147

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Number of boys in units classified in three categories according to their Treatment Potential	45
2. Number of boys in units classified in two categories according to their Treatment Potential	46
3. Number of boys classified by intervention during full period of follow-up	47
4. Number of boys with first intervention in time categories during full period of follow-up (Life table)	48
5. Life table of subjects "not clear of intervention" (R 2) N = 279	50
6. Number of boys with first offence during periods of time free in the community after release from tested unit	52
7. Number of boys with first serious offence during periods of time free in the community after release from tested unit	54
8. Number of boys according to intervention within 2 years after release from tested unit	54
9. Distribution of sociometric acceptance scores	56
10. Distribution of behaviour rating scores	56
11. Distribution of sociometric acceptance scores	57
12. Distribution of behaviour rating scores	57
13. Proportions of units clear of intervention for full period of follow-up, according to the Measure of Treatment Potential for each unit	65

14. Proportions of units of boys with no intervention within two years after release from tested unit, according to the Measure of Treatment Potential for each unit	67
15. Number of boys in categories of Treatment Potential, and intervention during the full period of follow-up	70
16. Life tables for three categories of Treatment Potential	71
17. Number of boys in offence categories up to two years free in the community, according to three categories of Treatment Potential	73
18. Number of boys in serious offence categories up to two years free in the community, according to three categories of Treatment Potential	75
19. Intervention within two years free in the community after release from tested unit, according to three categories of Treatment Potential	76
20. Intervention during full period of follow-up, according to two categories of Treatment Potential	78
21. Number of boys in offence categories up to two years free in the community after release from tested unit, according to two categories of Treatment Potential	79
22. Number of boys in serious offence categories up to two years free in the community after release from tested unit, according to two categories of Treatment Potential	80
23. Intervention within two years free in the community after release from tested unit, according to two categories of Treatment Potential	81
24. Distribution of behaviour rating scores in five categories, according to intervention during full period of follow-up	84

25. Distribution of behaviour rating scores in three categories, according to intervention during full period of follow-up	84
26. Distribution of recidivists (any form of intervention) and non-recidivists over full period of follow-up, according to behaviour rating scores	85
27. Distribution of sociometric acceptance scores in five categories, according to intervention over full period of follow-up	87
28. Distribution of sociometric acceptance scores in three categories, according to intervention over full period of follow-up	87
29. Distribution of recidivists (any form of intervention) and non-recidivists for the full follow-up period, according to sociometric acceptance scores	88
30. Distribution of sociometric acceptance scores in five categories, according to offences up to two years after release from tested unit	89
31. Distribution of sociometric acceptance scores in three categories, according to offences up to two years after release from tested unit	90
32. Mean acceptance scores according to offences during first two years after release from tested unit	91
33. Distribution of sociometric acceptance scores in five categories, according to offences within two years after release from tested unit	92
34. Distribution of sociometric acceptance scores in three categories, according to offences within two years after release from tested unit	92
35. Distribution of sociometric acceptance scores in three categories by Treatment Potential in three categories and by recidivism (offences within 2 years free after release from tested unit)	94

36. Mean age within units at time of M.T.P. testing, according to the Measure of Treatment Potential of units	96
37. Mean age of subjects at time of M.T.P. testing, according to Treatment Potential in two categories	98
38. Mean age within units at time of M.T.P. testing, according to proportion of units with no intervention within two years	99
39. Mean age at time of M.T.P. testing, according to intervention within two years free after release from tested unit	100
40. Mean age within units at time of M.T.P. testing, according to proportion of subjects clear of intervention during full period of follow-up	101
41. Mean age of subjects at time of M.T.P. testing, according to intervention during full period of follow-up	102
42. Proportions of units clear of intervention for full period of follow-up and for two years after release from tested unit, according to mean age at follow-up of boys from each tested unit	103
43. Intervention within two years free, according to year of M.T.P. testing	107
44. Intervention during full period of follow-up, according to year of M.T.P. testing	107
45. Mean age of subjects at time of M.T.P. testing, according to year of testing	108
46. Life tables for subjects administered the M.T.P. during 1962 and during 1963-64	109
47. Descriptive data of M.T.P. testing and follow-up sample	136
48. The Measure of Treatment Potential, its level of significance, sample size, and number of subjects eliminated from follow-up sample, by units	137

49. Subjects with F.P.S. records (N = 276)	138
50. Subjects without F.P.S. records (N = 98)	139
51. Number of boys in categories of type of intervention within two years free in the community after release from tested unit	140
52. Life table (N = 374)	141
53. Proportion of boys in each unit clear of intervention for full period of follow-up	143
54. Proportion of units with no intervention within 2 years after release from tested unit	144
55. Record of interventions within 2 years free in the community after release from tested unit, according to three categories of Treatment Potential	145
56. Intervention according to year of M.T.P. testing	146

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Life table curve of subjects not clear of intervention (R 2) (data drawn from Table 5)	51
2. Proportions of units clear of intervention for full period of follow-up, according to the Measure of Treatment Potential for each unit (data drawn from Table 13)	66
3. Proportion of units of boys with no intervention within two years after release from tested unit, according to the Measure of Treatment Potential for each unit (data drawn from Table 14)	68
4. Comparison of life table curves for three categories of Treatment Potential (data drawn from Table 16)	72
5. Mean age within units at time of M.T.P. testing, according to the M.T.P. of units (data drawn from Table 36)	97
6. Proportion of units with no intervention within two years after release, according to the mean age of tested units at time of follow-up (data drawn from Table 42)	104
7. Proportion of units clear of intervention for full period of follow-up, according to the mean age of tested units at time of follow-up (data drawn from Table 42)	105
8. Life table curves for subjects administered the M.T.P. during 1962 and during 1963-64 (data drawn from Table 46)	110
9. Life table curve for total sample (data drawn from Table 52)	142

INTRODUCTION

The purpose of corrections in the second half of the twentieth century has become one of rehabilitation, and the central scientific problem for criminologists in this context has been the evaluation of existing methods and the development of new techniques of treatment. The main tool in this type of research is, in general terms, prediction methodology. If a particular form of correctional treatment is effective for a given population of offenders, we should be able to predict that its application will reduce the recidivism rate and we should be able to confirm this prediction.

Such prediction studies have often emphasized the importance of offender typologies, of psychological and other personal traits, multiple in number, which are combined and weighted by various methods, attempting to produce the most powerful formula in relation to the criterion of recidivism. While sociologists have contributed a vast quantity of literature in the field of criminology, empirical methods to test their theories have been slow in developing, and those attempting to develop measures of social climate, the force of subcultural factors or the influence of the ecological milieu must acknowledge that the constructs with which they are dealing are more difficult to quantify than

are individual attributes. Yet, the impact of their theory demands a scientific response.

The sociological theory underlying this study was the supposition that correctional institutions comprise two separate normative systems, that of the inmates and that of the officials, with the inmate subculture having the power to impede or negate any positive goals that the institution may have set. As a part of a comprehensive research design including several aspects of institutional life as well as individual inmate traits, a measuring instrument, known as the Measure of Treatment Potential, was devised and administered to subjects in Ontario Training Schools between the years 1961 and 1964. Its purpose was to establish the relative degrees of staff-inmate cleavage existing within small residential or educational units of these institutions. It was postulated that the value system (assessed by this measure) of the group undergoing the institutional experience was an expression of the short-term effectiveness of the correctional program, and as such, it was related to other factors available as hard data at the time of the study. However, the stated main purpose of the instrument was to predict long-term effects.

This present report, a follow-up study conducted in 1970, has analysed the recidivism data relating to those male

Training School subjects who participated in the original study, in order to test the validity of the Measure of Treatment Potential as a single predictor of future behaviour.

It was hypothesized that there would be an inverse relationship between the Measure of Treatment Potential and recidivism; or conversely stated: there would be a positive relationship between the Measure of Treatment Potential and "rehabilitation" (non-recidivism). However, it was understood that the nature of the investigation was essentially exploratory and that a better understanding of the underlying entities might evolve in the process of studying results, leading to further analyses and suggestions.

CHAPTER I

REVIEW OF THE LITERATURE

Preamble

Because this study constitutes a follow-up on subjects used in a previous study (15) and introduces the criterion of recidivism to validate the Measure of Treatment Potential (M.T.P.) developed in that study, this review gives only a brief résumé of the theory and methods used in the original research. The first section in this chapter deals with the familiar classical studies which postulate a staff-inmate cleavage in correctional institutions, and introduces the possibility that wards of juvenile institutions may be less subject than adults to the demands of an inmate contra-culture working in opposition to institutional goals. The second section is a description and critical evaluation of the theoretical assumptions underlying the M.T.P. The third section covers previous attempts to validate the measure with reference to other studies in which it has been used. The last section reports the methodological problems encountered in using recidivism as a criterion, especially for juveniles.

Descriptive Studies of Staff-Inmate Cleavage

Much of the literature on correctional institutions has been derived from theoretical analyses of the corporate life and the structural entities which appear to shape the orientation of individuals within the milieu. Donald Clemmer, who was probably the first to provide such a study of the social relationships within a correctional institution (2) observed a pattern of interaction within the inmate world which he described as a "community", a community with its own norms, values, and code of ethics which unites it and differentiates it from normal society and which is, moreover, organized around the values of its most persistent, and least improvable members. According to Clemmer, in the process of "prisonization", the inmate comes to accept the prevailing attitudes of his reference group and internalizes its peculiar set of values.

The hierarchy of leadership patterns developed in such a milieu was studied by Clarence Schrag (27) who observed the substitute social roles assumed by inmates when they are deprived of their more normal roles. Subsequent to these studies, Gresham Sykes (31) formulated the concept of the "psychological pains of imprisonment" to explain the formation of this inmate culture; it is a wretched state of mind every bit as painful as physical suffering which leads to corporate

and hostile opposition on the part of the "society of captives" against those who impose the deprivations associated with custodial demands.

More recently, in Asylums (12), Erving Goffman included the prison culture as one among examples of societal patterns existing in any total institution where the individual is controlled in all spheres of his activity. He contends that in order to succeed in gaining the control of the inmate, the institution must strip away anything that would give him a separate identity. This degradation and arbitrary denial leads the inmate to search for a new self, which he is left to work out within the informal organization of the prison culture. The process of mortification produces a reactive mechanism which allows the offender to rationalize any feelings of guilt by placing the blame on a corrupt society; he is then able to reject his rejectors. According to Goffman, what develops in the prison is a complex system of boundary maintenance between the informal organization of the inmate world, and the formal organization of the institution and its staff. The custodial personnel may be isolated, shunned or manipulated, according to the demands of social distance enforced by the inmate code.

Such descriptive evaluations of the staff-inmate cleavage in certain correctional institutions present a sharp

contrast with the expressed goal of treating the offender, of providing programs to equip him to perform adequately as a law-abiding citizen. On the contrary, the pervasive models of anti-social behaviour within the inmate reference group may reinforce criminal attitudes with the result that the prison becomes nothing less than a breeding ground for sophisticated criminals. Clearly, such a situation is not conducive to the rehabilitation envisaged by those responsible for safeguarding the interests of society.

The above view is partly questioned by Thomas (32) in his assessment of the current status of research on the inmate contra-culture. He asserts that "research reports have tended to be without either adequate theoretical foundation or cumulative impact". He proposes a more inclusive conceptualization of developmental processes within the prison community and a general explanation of the normative elements of such communities. His main contention is that pre-prison experiences provide the foundation for prison adjustment and that the prisoner approaches his incarceration with a well-developed set of attitudes and values which may be just as important as specific institutional structures and programs. The implication is that the contra-culture probably reflects existing attitudes; it is not simply a reaction to prisonization.

Thomas' theoretical analysis offers little more than a critique of existing research designs; on the basis of his review of existing literature, he does not deny that a pervasive contra-culture does exist. However, this hypothesis may have important implications for juvenile institutions, if it can be assumed that the less mature enter the correctional institution with a less well-developed set of attitudes and values and are therefore more likely to be amenable to counteracting influences. Indeed, many juvenile institutions report successful experiments with small group programs, using group dynamics, individual counselling and various other therapy-oriented approaches. Gazan (9) reports that close staff-boy relationships were achieved in one institution which was deliberately organized and structured for this purpose. In the same vein, Scott and Hisson (28) present a sociological method for changing the contra-culture in juvenile institutions to a supportive culture.

The Ontario Plan in Corrections (23) articulates its express aim to "break down as much as possible the subculture found to some degree in all institutions" and to facilitate "open communications between residents and staff".

A New Measure of the Cleavage-Harmony Dimension

Given this recognition of the importance of harmonious relations between staff and pupils, and assuming that efforts are being made in this direction, what has been seen to be needed to supplement the descriptive studies are empirical devices capable of measuring the extent of staff-inmate cleavage, or conversely, the degree of correspondence of attitudes and goals between the staff and the inmates. One such device is Grygier's Measure of Treatment Potential. An operational definition of the term Treatment Potential can be stated as follows:

"A correlation between the attitudes of inmates towards their own behaviour (as measured by sociometric tests) with the attitude of the staff towards inmate behaviour (as expressed in the latter's behaviour ratings) is an index of the treatment potential of a unit, representing the relative strength of the therapeutic milieu."¹

The M.T.P. is based on the premise that: "if the offender meets with the approval of his peers whenever he offends against the official culture, and with disapproval whenever he tries to co-operate, he is more likely to reject therapy in favour of acceptance by his mates. On the other hand, if the attitudes of staff and inmates coincide, the staff's efforts will be reinforced by the consensus of those undergoing treatment" (15).

¹ Grygier, in private communication.

The numerical value resulting from the measuring device is actually a correlation index (converted to its z score for comparative purposes) assigned to an operational unit within an institution. Within each unit, two tests are administered to achieve the correlation: a sociometric test to the inmates, and a behaviour rating test to the staff member. Copies of these questionnaires can be found in Appendix II; instructions for administering and scoring are fully described in the report of the original study of Ontario Training Schools (15), and are partly reproduced in the same Appendix.

Several theoretical concepts underly the connection between the operational definition of treatment potential and the ultimate goal of non-recidivism. A basic assumption is that the development by inmates of behavioural patterns acceptable to institutional staff, who represent society at large, will equip the offender to adjust satisfactorily to social and legal norms outside. Though basic to the technique, this assumption may be criticized, especially when applied to adult institutions. The "staff" required for the behaviour rating test must be those who supervise and manage the everyday experience of the inmates; for the most part, they will be non-professional personnel drawn from the same social class as the inmates themselves. No doubt, such models have the advantage of being able to identify culturally with

the majority of inmates and to understand the subtleties of communication within the original milieu, but the literature on correctional institutions should make us wary of basing research on the blind assumption that all correctional officers reject the values underlying the anti-social behaviour of offenders.

Moreover, even those officers who do identify with the correctional goals of the institution may be subject to the prevailing dynamics of a total institution wherein a process of accommodation with the majority population will be the only method of controlling the behaviour from a custodial point of view. The "corruption of the guard" may become more than a simple matter of expedience in certain areas of rule violation; it may lead to a convergence of attitudes and a behavioural consensus such that the inmates are actually "correcting" the guards, forcing them to adopt similar attitudes in the face of institutional demands. According to Sykes (31), it is the "Right Guy", the inmate who adopts the most anti-social role, who is most respected by the inmate population. This being so, the guard is put in the position of having to co-operate with an inmate leader, whose values are in opposition to treatment, in order to keep the peace. In extreme situations of accommodation, it is doubtful that a custodial officer can objectively rate, from a treatment

point of view, the behaviour of inmates upon whom he has become dependent for organizational efficiency.

It may be assumed that the same problems do not arise in juvenile institutions where supervisors would appear to have more power by virtue of their age and experience at least. Nevertheless, doubt was cast upon this assumption by Polsky (26) who described the lower level personnel who had the most contact with the boys in "Cottage Six" as lacking the tools necessary to have any significant positive influence. He observed that they played along with an authoritarian and repressive peer system in order to manage the boys. However, if the behaviour rating test is to be faulted by the possibility that adult supervisors may prefer the behaviour of those most difficult to handle, then a more fundamental evaluation of the correctional system needs to precede the testing of the relative strength of positive influences.

In the 1962 Annual Report of the Department of Reform Institutions for the Province of Ontario (25), the Board reports that "the work of the Training Schools is being carried on in a satisfactory manner". The 1964 report (24) states that the "untiring efforts (of the staff) have been rewarded by the successful adjustment and future happiness of many young lives". It adds that concentration is being placed on attracting more professionally trained personnel and improving

the qualifications of all staff and notes that Ontario Training Schools are well thought of throughout Canada. The reports give no hint of the possibility that any institutions comparable to "Cottage Six" existed in the Province of Ontario in the years mentioned, but such a possibility cannot be excluded.

A second criticism of the behaviour rating test could be levelled from the point of view that satisfactory behaviour within an institution may have no positive connection with behaviour upon release to a less confining situation. This question was studied by Cowden (3), using subjects in a Wisconsin Training School for boys. He tested the hypothesis that "the better the boy's institutional adjustment, the lower the probability of recidivism". Cowden found an essentially linear and inverse relationship between institutional adjustment and recidivism, which was significant beyond the .001 level, verifying his hypothesis that "the behaviour of adolescent delinquent boys both within and outside the institution is reasonably consistent". He used institutional conduct reports for his measure of institutional adjustment. Recidivism was defined in terms of the number of recommittals for a period of approximately five years.

The first assumption is, then, that staff in juvenile institutions are capable of rating the behaviour of pupils in

a manner which would conform to the expectations of those who judge their behaviour outside. This behaviour rating constitutes one of the variables for the correlation index which is the Measure of Treatment Potential for a given unit. The second variable, the sociometric scores, must then be said to measure the same construct in order for the correlation to have any meaning. There must be a theoretical connection between inmates' feelings towards each other and the supervisor's assessment of their behaviour. The one must be seen to represent the values and norms of the representatives of the correctional authority; the other to represent the values and norms of those under their charge. Where there is a high correlation between the two variables, a correspondingly low degree of value disagreement would be postulated.

The sociometric test is based on the premise that personalities embody life-styles with implicit value orientations. Gardner Murphy (20) claimed that the best description of a personality is in terms of a "hierarchical system of social values which an individual has organized throughout his continuous development". Gordon Allport (1) states that an attitude can be defined simply as a readiness to act (or react): it exerts a directive or dynamic influence on actual behaviour. In sociometric testing, a positive attitude toward a colleague is taken as approval of that colleague's

values and behaviour. The purpose of the test may be obscure to the testee in as much as he is not asked to describe the values and the types of behaviour he likes or dislikes; but in expressing his feelings or attitudes towards persons, he conveys the same information. From this theoretical basis, Grygier's measure is based on the assumption that values, attitudes, and behaviour are expressions of the same concept. Both inmates and staff are assumed (through the separate measures) to reveal their standards of behaviour: their readiness to act and interact within the correctional setting in which they operate.

Reliability and Validity of the Measure of Treatment Potential

Being an index number, the representation of the agreement between the values obtained by two measuring instruments, the M.T.P. does not easily lend itself to reliability studies which one assumes to be crucial to the validity of the measure. Although some data relating to the stability or consistency of each of the component measures is available, no attempt was made in the Ontario study (15) to retest units on both measures², in order to determine a reliability coefficient for the M.T.P.

² There was one exception: a unit of delinquent girls was retested on both constituent measures, but between testing times the unit had undergone restructuring for the purpose of intensive treatment. The resulting drop in the M.T.P. was attributed to the differing structure and the retest could not be considered useful as a measure of reliability.

The founder of Sociometry, J. L. Moreno (19), and more recently, Evans (8) and Northway (22) assert that the ordinary concepts of reliability and validity applied to psychological tests have no meaning in the field of Sociometry. Sociometric tests, it is said, measure unstable current behaviour and in so far as they do not measure false choices, they must be taken as valid. Despite this prevalent line of argument, Croft and Grygier (4), and later, in the Ontario study, Grygier (15) did establish satisfactory reliability coefficients for their sociometric tests.

With respect to the other component of the M.T.P., the behaviour rating test, two studies have shown that the ranking of pupil behaviour may vary considerably depending upon which staff member is questioned. In a study designed to evaluate the treatment programme at White Oaks Village, a Training School for younger boys which had five supervisors in each unit, it was found that "the staff were by no means in agreement among themselves about the ratings of individual children" (14). The other study which compares behaviour ratings was conducted by Maurice Cusson in a Quebec Training School for boys (5). In each unit of the school, he collected behaviour rating data from the chief supervisor and from each of the latter's two assistants. When the M.T.P. was calculated using each of the three separate rankings, Cusson found

great differences in the M.T.P. of a unit, depending upon which supervisor rated the behaviour, and he concluded that the three were not working as a team. In deciding which value was the most representative, Cusson argued in favour of the behaviour rating by the chief supervisor, mainly because he has more power within the unit and is more closely identified with authority.

In the Ontario study, on which this follow-up report is based, the behaviour rating test was administered to the "House Master" or to the staff person most closely associated with the unit in question. In no case was an individual supervisor asked to rank the behaviour of the same children at a later date in order to establish retest reliability. Such an approach might suffer from the same pitfalls as retesting in Sociometry. Since both components of the M.T.P. are designed to measure unstable current behaviour, they should be administered at the same time in order to evaluate the correspondence of values between the staff member and the pupils. Thus the reliability of the components and, in turn, that of the M.T.P., relies mainly on the carefulness and accuracy of the sociometric testees and the behaviour raters.

In the absence of conclusive evidence for the reliability of the M.T.P., its validity must rest solely on other objective criteria. In Croft and Grygier's study of a British

secondary modern school (4), they claimed some prima facie validity from their results. For normal classes, sociometric scores correlated positively with behaviour ratings, while for classes representing academic and behavioural problems, such correlations were reduced to zero. However, this face validity led them to conclude that negative correlations could be predicted for all correctional institutions. That this was found to be untrue for the boys' Training Schools in Ontario (15), does not support their notion of face validity.

Only much later, Cusson (5) was able to show, using Stott's delinquency prediction technique (29), that boys in a Quebec Training School who tended to have higher delinquency ratings were those who comprised units with low or negative Treatment Potential. Those with a lesser degree of previous maladjustment were found in positive groups. It may then be a matter of degree. Since the boys in Ontario Training Schools were all members of positive groups, one might be tempted to conclude that Ontario delinquent boys were apprehended early in their maladjustment or that the more maladjusted are never apprehended. Alternatively, one might conclude that the positive correlations are indicative of the fact that treatment has taken place. Presumably, if the groups had all been positive initially, the boys would

have been in no need of training. Cusson (5) also made use of participant observation to lend substance to the face validity of the M.T.P. By observing both negative and positive groups, he was able to confirm the difference in atmosphere.

Barbara Nease and Louise Sakowicz (21) also described the social climate in units of the Mercer Reformatory for women where they did their Treatment Potential studies. Units of high Treatment Potential were described as cooperative, friendly and cordial, while units of negative orientation exhibited hostility, suspicion, and behavioural difficulties. Moreover, units of high Treatment Potential tended to choose their own supervisor as their favourite. Such attempts to establish concurrent validity for the M.T.P. were necessarily subjective, but the results in every case suggested at least a reasonable indication of validity.

Several other tests used by Cusson are relevant (5). For instance, he measured the characteristics of groups with high positive correlations between sociometric and behaviour ratings, in terms of order, active participation of members, relations with staff, former maladjustment, co-operation, respect for others, absence of mistrust and suspicion, and so on. The results confirmed that what he calls the

"Grygier correlation"³ was an effective measure of treatment potential. Moreover, when he tested the sociometric leaders of houses with positive orientations, and of others with negative orientations, he found that the most popular persons in the positive (high Treatment Potential) groups had positive attitudes toward the Training School, the staff, and social institutions. The most popular persons in the low Treatment Potential groups had negative attitudes.

A more objective measure of concurrent validity was the method originally relied on in the study of the Ontario Training Schools (15). When the M.T.P. was computed for each school, and each school was rank-ordered on this basis, the then administrator of the Training Schools, who had seen the schools operating and had formed his own opinion, was asked to rate the schools according to his estimate of their therapeutic impact. His rank order for boys' schools corresponded precisely to the order established by the M.T.P. With the exception of one school, which had high Treatment Potential, the same administrator was unable to distinguish between the Treatment Potential of units in girls' schools, most of which were very low, not significantly different from

³ In a study now in progress, Cusson uses (in French) the expression adopted here: the Measure of Treatment Potential.

zero. After a change in the administration, the new administrator was asked for his comments on the same question. A similar correspondence was achieved, although no precise ranking was attempted. Cusson (5) used a similar method of validation. He consulted the two directors who had overall responsibility for the Training School in which he had studied 16 units. He asked them for their opinions concerning which units functioned best. The correlation between the results of the M.T.P. and the ratings of Directors A and B were, respectively, .75 and .43. He concluded that the M.T.P. was thus an excellent measure of unit functioning when related to the ratings of the directors.

The evidence of concurrent validity for the M.T.P. is impressive, but it is necessarily limited to the institutional context. If the measure is relevant to later performance in the community, then the logical criterion-related validation would be dependant on follow-up reports, the criterion being success or failure as predicted. One such longitudinal study was done by Ton de Swaaf (6) using a sample of boys from a new progressive school, White Oaks Village, and a matched control group from a traditional school.

White Oaks Village was founded by the Ontario Government in 1966 following the recommendations of the study of Training Schools in Ontario (15) that the treatment of emotionally

disturbed children should be conducted in small units with high staff-pupil ratio and adequate professional help, disregarding to a large extent the specific anti-social acts. It was suggested that each group should resemble a family unit as far as feasible. Pupils at White Oaks Village, near Hagersville, were between the ages of eight and twelve. Each cottage was a "home" to ten boys and had a staff of three men and two women. The recreational emphasis was on spontaneity rather than structure; the boys had the normal amount of time for romping and visiting staff children. In 1967 a research team of Grygier, Nease, Guarino, and Sakowicz conducted a study (14) at White Oaks using the M.T.P. The correlation proved to be positive in all cottages with an overall index of .62. The traditional school used as a control group in de Swaaf's study, St. John's, had previously recorded a Treatment Potential index of .36.

In terms of validating the measure of Treatment Potential, the results of de Swaaf's study are positive, but methodologically it lacks a sound base since many important variables were found to be uncontrollable. For the most part, boys from White Oaks School, which had groups of relatively high positive orientation on the M.T.P. showed better adjustment six months after graduation than did the control group of boys from St. John's School (where Treatment Potential results

were relatively lower), eight months after graduation. De Swaaf suggests that a longer follow-up period might yield different results, but it is questionable that the results would be more meaningful. Moreover, the de Swaaf study used D. H. Stott's Bristol Social Adjustment Guide (29) as the criterion of adjustment at the Public School, before and after the Training School experience. The same criterion was applied to the children during their stay in Training School.

Other criteria of adjustment might be used, but de Swaaf warns against the use of recidivism as a criterion for adjustment. He discovered that the former wards of the experimental and control schools were affected by two quite different administrative practices. Similar disruptive behaviour during after-care tended to result in a White Oaks' graduate being moved to another placement in the community, while the St. John's graduate would more often be returned to the school.

It must be said that de Swaaf's definition of recidivism is necessarily limited, due to the youthfulness of the subjects and the shortness of his follow-up period. Moreover, it is questionable that after-care services for traditional schools would have policies as radically different as that which he claims to have existed at White Oaks.

The Criterion Problem

Whether or not, due to policy discrepancies, recidivism is a meaningful criterion in this particular study, the term itself lacks any distinct definition. In criminological research, various methods of adjudging success or failure of persons subject to correctional treatment have been used singly or in combination, but with no generally accepted standards. This lack of uniformity may reflect the interests of the researchers, the type of correctional intervention, the particular legal and administrative policies of a jurisdiction or any number of other factors. Gottfredson (13) outlines in detail the extent of the criterion problem while at the same time insisting that a reliable and valid criterion is essential to any prediction effort. Ralph England (7) makes the case that the "acid test of penocorrectional efforts are recidivism rates as measured by convictions; any test less severe than this is assailable on the ground that, since public officials originally declare an individual guilty of a criminal act, and order him dealt with in ways designed to prevent further violations, only the findings of public officials should be used to decide whether or not the intent of the earlier dealings was fulfilled". In this matter, England was not addressing himself to the question of juveniles for whom, in many jurisdictions, the question

of legality may be less pertinent.

The criterion problem remains an issue of dispute in the literature and hampers comparative studies; further, even a simple definition of recidivism, especially when the prediction relates to juvenile subjects, suffers from the difficulties encountered in follow-up. The Gluecks (11) using an elaborate tracing programme are satisfied that the proportion with whom they have lost contact does not bias their follow-up results. Jerome Laulicht (17) in his study of recidivism from one American institution for juvenile boys had to eliminate 225 of his 804 potential subjects. His study was partially limited by his inability to obtain follow-up information. He indicated that neither the F.B.I. nor the Armed Forces were in a position to offer the necessary co-operation, but that he did receive information from 100 social agencies as well as staff members of the Training School who had maintained contact with certain boys. The rigour of his follow-up investigation is evidenced by the fact that he was able to obtain at least some information on 95% of the 804 subjects, although for many, the information consisted merely of a precise date when contact was lost, and this was one of the reasons for eliminating a subject from the sample.

The problem of bias introduced by lost or missing information has been studied in detail by Mannheim and Wilkins (18)

and by Smith and Wilkins (30). In the former study, the authors found that for offenders whose files could be easily traced by the Home Office in Britain, the rate of recidivism was only 30%; for those whose files were missing, the rate was 88%. In the latter study, Smith and Wilkins demonstrated that a small proportion of missing data can introduce significant errors of measurement, even when using a very large sample. In this light, loss of contact becomes a pertinent problem for follow-up studies, especially when such studies are conducted in a country like the United States where information is not readily available from a central source. With the co-operation of the R.C.M.P., a nation-wide police force in Canada, the tracing problem should not be as difficult, although for juveniles, the absence of fingerprint data makes certainty of identification impossible unless adequate information pertaining to each subject is submitted for tracing.

The final question relating to recidivism as a criterion concerns the length of the follow-up period. Depending on the research design and type of predictors, varying time periods are found in the literature. The Gluecks, using their multi-causal framework, and working from their theory of maturation, have followed their original sample of delinquents until their thirtieth birthday (10). Those who are interested in post-institutional effects argue in favour of

short periods of follow-up, including Grygier (16) and Wilkins (33). Laulicht (17) found that 81% of his sample which did recidivate over a seven year period did so within the first three years after release; he suggests from this result that recidivism studies for similar institutions should be extended at least this long in order to determine the effect of the institutional experience. To suggest, however, that any institutions are 'similar' is probably less helpful than to state a cut-off point in terms of a proportion of recidivists or in terms of a drop-off in failure rate. The seriousness of the offence or the type of disposition imposed in conjunction with the time elapsed after release from an institution may also be relevant factors in determining the extent of success or failure. It is evident that precise definitions of recidivism in terms of time and form are crucial to the methodology of follow-up studies.

Summary

In summary, the literature suggests that a cleavage between staff and inmate values has impeded or negated rehabilitation programmes within correctional institutions. While there is some evidence that juveniles may be more easily influenced by staff values, few empirical techniques have been developed for measuring the extent of the inmate

contra-culture either in adult or in juvenile institutions. A review of the literature on the Measure of Treatment Potential (M.T.P.) has indicated that this device has had positive results in terms of factors known to be related to rehabilitation; concurrent and short-term validity have also been established with respect to juvenile Training School wards. The present study attempts to validate the M.T.P. in long range terms.

The criterion of recidivism as a means of testing institutional effects during a follow-up period has been suggested by several criminologists to be of vital importance, but no standardized methodology has been developed and difficulties are encountered especially when dealing with juvenile subjects since, in many jurisdictions, they are not easily traced.

The research design developed in this study, and described in the following chapter, is pertinent to the original sample of subjects who were administered the M.T.P. in their various settings between the years 1962 and 1964. A brief description of these institutions as they existed at the time of testing will be introduced prior to a comprehensive presentation of the follow-up methodology.

References

1. ALLPORT, G.W. (1935) Attitudes, in C. Murchison, A Handbook of Social Psychology. Worcester, Mass.: Clark University Press, 798-844.
2. CLEMMER, D. (1940) The Prison Community. Boston: Christopher House.
3. COWDEN, J.E. (1966) Predicting Institutional Adjustment and Recidivism in Delinquent Boys. Journal of Criminal Law, Criminology, and Police Science, 57, 39-44.
4. CROFT, I.J. and GRYGIER, T.G. (1956) Social Relationships of Truants and Juvenile Delinquents. Human Relations, 9, 439-466.
5. CUSSON, M. (1968) Relations Sociales dans les Pavillons d'un Centre de Rééducation. Montréal: Université de Montréal (unpublished Master's thesis).
6. de SWAAF, T. (1968) A Study of White Oaks Village. Toronto: Report presented to the Department of Reform Institutions.
7. ENGLAND, R.W. (1955) A Study of Postprobation Recidivism Among Five Hundred Federal Offenders. Federal Probation, 19, 10-16.
8. EVANS, Kathleen. (1966) Sociometry and Education. London: Routledge and Kegan Paul.
9. GAZAN, H.S. (1968) The Informal System: an agent of change in juvenile rehabilitation. Crime and Delinquency, 14, No. 4, 340-345.
10. GLUECK, S. and GLUECK, Eleanor T. (1968) Delinquents and Non-Delinquents in Perspective. Cambridge, Mass.: Harvard University Press.
11. GLUECK, S. and GLUECK, Eleanor T. (1945) After-Conduct of Discharged Offenders. London: University of Cambridge.

12. GOFFMAN, E. (1961) Asylums. Chicago: Aldine.
13. GOTTFREDSON, D.M. (1967) Assessment and Prediction Methods in Crime and Delinquency, Task Force Report: Juvenile Delinquency. President's Commission on Law Enforcement and Administration of Justice. Washington, D.C., 171-187.
14. GRYGIER, T.G., GUARINO, Margaret, NEASE, Barbara, and SAKOWICZ, Louise. (1968) Social Interaction in Small Units: new methods of treatment and its evaluation. Canadian Journal of Corrections, 10, 252-260.
15. GRYGIER, T.G. (1966) Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report. Toronto: Department of Reform Institutions and the University of Toronto (mimeographed).
16. GRYGIER, T.G. (1961) Current Correctional and Criminological Research in Canada: present framework, trends and prospects. Canadian Journal of Corrections, 3, 423-444.
17. LAULICHT, J. (1962) A Study of Recidivism in One Training School. Journal of Crime and Delinquency, 8, No. 2, 161-171.
18. MANNHEIM, H. and WILKINS, L.T. (1955) Prediction Methods in Relation to Borstal Training. London: Her Majesty's Stationery Office.
19. MORENO, J.L. (1934) Who Shall Survive? Washington: Nervous and Mental Disease Monograph Series, No. 38.
20. MURPHY, G., MURPHY, L.B., and NEWCOMB, T.B. (1937) Experimental Psychology. New York: Harper.
21. NEASE, Barbara, and SAKOWICZ, Louise. An Exploratory Study of the Group Dynamics Operating in the Female Reformatory at Mercer (mimeographed).
22. NORTHWAY, Mary L. (1967) A Primer of Sociometry. Toronto: University of Toronto Press.
23. ONTARIO (1969) The Ontario Plan in Corrections. Toronto: Department of Correctional Services.

24. ONTARIO (1964) Annual Report of the Department of Reform Institutions. Toronto: Queen's Printer.
25. ONTARIO (1962) Annual Report of the Department of Reform Institutions. Toronto: Queen's Printer.
26. POLSKY, H.W. (1962) Cottage Six. New York: Rusell Sage Foundation.
27. SCHRAG, C. (1954) Leadership Among Prison Inmates. American Sociological Review, 19, 37-42.
28. SCOTT, J.W. and HISSON, J.B. (1969) Changing the Delinquent Subculture: a sociological approach. Crime and Delinquency, 14, No. 5, 499-510.
29. STOTT, D.H. (1960) The Prediction of Delinquency from Non-delinquent Behaviour. British Journal of Delinquency, 10, 195-210.
30. SMITH, G.W. and WILKINS, L.T. (1968) Sound an Alarm: the problem of bias. Journal of Research in Crime and Delinquency, 5, 115-121.
31. SYKES, G. (1958) Society of Captives. Princeton, N.J.: Princeton University Press.
32. THOMAS, C.W. (1970) Toward a More Inclusive Model of the Inmate Contraculture. Criminology: An Interdisciplinary Journal, 8, No. 3, 251-261.
33. WILKINS, L.T. (1955) Some Developments in Prediction Methodology in Applied Social Research. British Journal of Sociology, 6, 348-354.

CHAPTER 2

RESEARCH DESIGN

Description of the Original Sample

The subjects used in this follow-up study were previously wards of Ontario Training Schools for boys; testing for the M.T.P. was conducted in the six schools in existence between 1961 and 1964. Within each school, relatively cohesive units with their most immediate and familiar supervisors were selected for the measure. A certain amount of classification following court proceedings and after Training School placement obviated the possibility of random assignment of subjects to units, and necessarily introduced differences in the subjects' previous histories and/or abilities. However, since the M.T.P. was designed to quantify the current social climate envisaged as a more powerful indicator of future behaviour than past performance, such classificatory factors were not considered relevant; if the more difficult subject material were not handled more skillfully within the classification scheme, this would be expected to be reflected in a lower M.T.P. index. The following descriptions of the original settings were drawn mainly from a report by John Cossom (1).

St. John's School, Uxbridge, was a private, Roman Catholic institution which, when tested, had a population of

nearly 200 boys. Wards were admitted on the basis of their religious affiliation and their residential proximity. The school was supervised by the Brothers of the Christian Schools (Toronto District), and emphasized academic training. Since the school was not divided into residential units, three classroom groups were used for testing, the units being the grade seven group, the the grade eight group, and the grades nine and ten group. The staff-student ratio for the school at the time of testing was .2574.

St. Joseph's School, Alfred, was also under the supervision of the Brothers of the Christian Schools (Ottawa District). It accommodated Roman Catholic boys, including nearly all the French-speaking wards in Ontario, as well as an English-speaking population drawn mainly from Northern and Eastern Ontario. At the time of testing the school accommodated nearly 175 boys. There were no easily identified units, except in terms of language. Two groups were then selected: one of French-speaking boys, the other of English-speaking boys. The staff-student ratio at St. Joseph's was .2402.

The Ontario Training School at Cobourg accommodated the youngest population of non-Roman Catholic boys, nearly all of whom were under the age of 14 on first admission. The school had a population of approximately 200 boys divided

into 7 houses. Individuals were allocated to the various houses on the basis of age, size, and behaviour. They pursued academic training from grades one to eight. Three of the houses were used as units for the M.T.P. testing. The overall staff-student ratio for the school was .4845.

The Ontario Training School at Simcoe was newly constructed at the time of testing and was designed to house approximately 120 boys. All the boys were at least 14 years of age and were selected for their academic potential. All four houses were used as testing units. The staff-student ratio was .7356.

The Ontario Training School, Bowmanville, had one house designated as a reception centre for all non-Roman Catholic boys committed to an Ontario Training School. During their temporary stay in this centre, they were classified according to age, behaviour, academic level and potential, and other relevant factors. Those who were not sent to another school after classification were allocated to one of the other five houses at Bowmanville. These remaining pupils were nearly all over 14 years of age. The school programme pursued academic and vocational education. All five houses (excluding the reception centre) were used as units for the M.T.P. testing. The staff-student ratio was .4471.

The Ontario Training School at Guelph differed markedly in structure from the other schools in that it was a maximum security institution with an inmate population composed of those seen to be serious security risks and those who had records of escapes or uncontrollable behaviour in other Training Schools. The institution's capacity was 48 boys, each with individual cells. They were of varying ages, up to 18 years. At the time of the M.T.P. testing, all inmates were included in the sample. The staff-student ratio was .7111.

In summary, the M.T.P. data used for this follow-up study was drawn from the research conducted between 1961 and 1964 in the six Ontario Training Schools for boys. A total of 18 units were tested. Descriptive data relating to the subjects at the time of testing and to the follow-up sample are found in Tables 47 and 48, Appendix III.

Collection of Recidivism Data

The data available from the original research included the names of the 379 boys who were members of the 18 units, the M.T.P. and its level of significance for each unit, the date of testing, sociometric and behaviour rating scores for each boy, and the age of each boy at the time of testing. In some cases, brief social histories were also included. For many of the subjects, only surnames were recorded; for a

number of others, there were only surnames and initials of Christian names. The first task was to supplement these data with sufficient information for the follow-up investigation. Training School files for each subject were studied and compared with the information available from the original research until a correct identification was confirmed. Identifying characteristics, as well as data concerning juvenile offences, recommitments to Training School subsequent to the time of release from the "tested units"¹, and any reports of adult offences were then drawn from the files and an Information Sheet (Appendix I) was completed for each boy.

On the dates when the M.T.P. testing was conducted (Table 47, Appendix III), the boys ranged in age from twelve to seventeen years. At the time of follow-up (1970), the youngest of the subjects was eighteen years of age, and the oldest was twenty-five. All of those who were accepted in the follow-up sample were released from the tested units at a time which allowed at least two free years in the community before the follow-up. The youngest of these was first released in 1964; he had a subsequent juvenile offence and an adult record dating from 1968.

¹ This term refers to the 18 units whose members were tested for the M.T.P. on particular dates during the original study.

Five subjects were eliminated from the follow-up study because of inadequate time spent in the community after release from the tested unit. One boy died accidentally three months after release. Another died of epilepsy at age sixteen (eighteen months after his release). Another was murdered shortly after release. None of these was a recidivist during his time in the community. One subject, who was serving a life sentence, went directly from the Training School to Penitentiary. Another went directly to a mental hospital for an indefinite period. This information, available in the Training School files, fixed the follow-up sample number at 374 (Table 48, Appendix III).

When the Information Sheets for the 374 subjects were completed, they were submitted to the R.C.M.P. Criminal Investigation Branch to obtain the data on adult criminal records. Where no record was found, the Information Sheet was stamped accordingly. Where an F.P.S. number² was located, the investigators attached to the Information Sheet a copy of the record which included the charges, place of conviction, dates of sentencing, and disposition, as well as the name and number of the subject.

² Identifying numbers based on fingerprints.

In view of the fact that positive identification can only be confirmed through submission of fingerprints (not presently recorded for juveniles), each record sheet was then checked with the Information Sheet to confirm the identification. Nearly all the early offences in a subject's career were committed in a local near the place of residence most recently recorded in the Training School file, and where there was a discrepancy of local, the social histories were rechecked for evidence of personal connections with the place of conviction or indications of residential instability. Language spoken (French or English); pattern of juvenile offences; age; uncommonness of name; and, especially, any mention in the Training School files of adult offences were also taken into consideration in deciding whether or not the R.C.M.P. record pertained to the subject of the inquiry. Presumably, the R.C.M.P. investigators were careful to take into account the subject's date of birth, racial origin, religion, colouring, scars and disabilities, as recorded on the Information Sheet; however, their techniques were not cross-examined.

It was noted that the use of aliases was uncommon for offences committed early in a subject's career and as such did not appear to constitute a major problem; once the subject was fingerprinted, further offences under assumed

names were simply added to the original record. However, two F.P.S. records were received bearing names which did not seem to correspond to those in the Training School files. On rechecking the social histories, it was found for one that the name on the F.P.S. record corresponded to the subject's legal name, that of his putative father, rather than to the name by which he was known in the Training School, that of his re-married mother. The other boy was registered in the Training School with a Polish surname and two Christian names. The attached F.P.S. record had a more complicated Polish surname and two Christian names, the first of which corresponded to the first Christian name on the Information Sheet. On rechecking the Training School file it was found that the boy had a step-father, but neither the name of the step-father nor that of the original father was mentioned. Since all other evidence pointed to the likelihood of correct identification, the records of both these boys were taken as correct.

Another enigma arose when it was discovered that two of the subjects had identical names in the F.P.S. records. The first and surname were common names, but the second Christian name was unusual. For one, the full name corresponded to that in the Training School file, but in the other Training School file, a second Christian name was not mentioned. However, since all the other information about the subjects was

different, as was their criminal record, it was concluded that they were separate individuals and both were included in the follow-up sample.

In cases of doubt concerning identification, where possible, an Information Sheet was resubmitted to the R.C.M.P. Of those who had records on the first submission, ten were returned to confirm the reliability of the investigation; some of these were chosen at random, others were cases of doubt. All but one of these was returned with a record identical to that received on first submission. The exception was the case of a French Canadian boy with a very common name whose home was in Penetang, Ontario, and who was recorded on first submission as having an offence in Quebec City in 1969. The Training School files show that the subject had only one committal to Training School and that his wardship was terminated early (at 16 rather than the maximum age of 18) because of "satisfactory adjustment". In the absence of positive confirmation and in view of the particular social history, the second result (no F.P.S. record) was taken as correct.

Of those without F.P.S. records on the first submission, twenty were returned for confirmation. Three of these had notices in the Training School files of adult offences which were not present on the F.P.S. record. The others either had common names, were doubtful for other reasons, or were chosen

at random. On second submission, one of the three was returned with an F.P.S. record which corresponded to that in the Training School file. The other two with adult convictions recorded in the Training School files remained without F.P.S. records. Both were accepted as adult offenders on the basis of the Training School report. Three others of the twenty were returned with F.P.S. records. One had a very common name and was still doubtful, but other evidence was weighted in favour of accepting the second result. Another had an uncommon name and his first offence was committed in 1968. The third had an uncommon name and his first offence was committed in 1969. All three were included in the sample on the basis of the second result.

Follow-up offender status was determined, then, as follows: where there was an F.P.S. record and a clear association between the latter and the information in the Training School files, no further investigation was considered necessary. Secondly, official information concerning adult offences was accepted if recorded in the Training School file, even if not present in the F.P.S. record. Nearly all cases where adult offences were recorded in the Training School files (usually the first such offence, and usually one which resulted in termination of wardship) corresponded with the R.C.M.P. record. Only eleven had escaped the R.C.M.P. record, and six

of these had F.P.S. numbers with respect to later offences; other data allowed for positive identification of these six. The Training School notices did alter the data, however, with respect to the time study (see page 47).

Of the 374 Information Sheets submitted to the R.C.M.P., 276 (73.8%) of the subjects were identified by an F.P.S. number. This high response reduced the likelihood of identification failure and allowed for analysis of the data in terms of qualitative factors rather than simply in terms of the recidivist/non-recidivist classification which was first envisaged. Table 49, Appendix III, presents the data concerning the type of information available for those who had an F.P.S. record. Three of these subjects were non-recidivists; they were never returned to Training School, and their F.P.S. records were solely the result of the unusual practice of recording the circumstances concerning their committal to Training School. Fifteen others were considered as non-recidivists because they had no recommittals to Training School, and their only adult offences resulted in dispositions of "acquitted", "withdrawn", "dismissed", or "discharged". In cases where the first offence on the F.P.S. record resulted in one of these dispositions, but where subsequently there were convictions for later offences, likelihood of guilt was taken into account and the original charge was considered as

a conviction for the purpose of the time study. "Guilt" was also considered likely in two cases where the only charge was withdrawn in favour of committal to a mental hospital.

Table 50, Appendix III, presents the data for the 98 subjects who did not have F.P.S. records. Four of these were considered to be recidivists on the basis of adult convictions recorded in the Training School files. Another committed an offence as a juvenile, but was not returned to Training School. Sixteen had no recorded adult offences, but were recommitted to Training School after their release from the tested unit. The remaining 77 subjects with no F.P.S. record were not known to be subject to any further intervention after their release from the tested unit. Further checks of the Training School files were made to study the reports of the after-care service and to determine the final prognoses for these 77 subjects. Forty-seven of them had their wardship terminated before the age of 18 because of "satisfactory adjustment". Only one had a decidedly negative prognosis. However, no control study was done to determine how these compared with the prognoses for the unsuccessful subjects. In total, 95 subjects were classified as clear of intervention, including the 18 who had F.P.S. records but were defined as non-recidivists as mentioned above, and the 77 who had no F.P.S. record and no subsequent intervention recorded in the

Training School files.

In summary, the data used in this study was obtained from the best sources available; they were cross-validated where possible, and an attempt was made to avoid bias in selection by including all the subjects tested in the original research except those whose circumstances were known to be exceptional and unacceptable for the follow-up study. Notwithstanding, it is acknowledged that, as with any longitudinal study, and especially with juveniles, there may have been errors of omission for which there was no control.

Classification of the Data

Measurements of four major constructs were used in this study: Treatment Potential, recidivism, sociometric acceptance, and behaviour rating, the latter two being the constituent elements of the Measure of Treatment Potential. The first two of these were defined in various ways for statistical analysis in accordance with the general hypothesis.

The M.T.P. was used in the first instance as a series of individual values representing the 12 different indices corresponding to the 18 units tested (Table 48, Appendix III). This definition has been labelled M.T.P. 1. The measure was also classified into three categories referred to as M.T.P. 2 (Table 1). In terms of this second definition, the category High Treatment Potential comprised those units whose

correlation index had a probability of significance of .02 or better. Units classified as Medium Treatment Potential had a probability of .05. The category Low Treatment Potential was used for the remaining units whose indices were found to be "not significant", that is, those units where the correlation between the two variables used in the M.T.P. had a probability of association of less than 95%. The third definition, M.T.P. 3, partitioned the sample into two classifications: High Treatment Potential (as in M.T.P. 2) and Medium-Low Treatment Potential. The frequencies for this definition are shown in Table 2.

TABLE 1

Number of boys in units classified in three categories according to their Treatment Potential

Treatment Potential	Number
Low (M.T.P. = .09 - .47; N.S.)	167
Medium (M.T.P. = .48 - .55; $P < .05$)	62
High (M.T.P. = .62 - .85; $P < .02$)	145
	374

Table 2

Number of boys in units classified in two categories according to their Treatment Potential

Treatment Potential	Number
Low (M.T.P. = .09 - .47; N.S.)	167
Medium-High (M.T.P. = .48 - .85; P<.05)	207
	374

The criterion variable, recidivism (or more correctly stated: recidivism/rehabilitation), was operationally defined in five different ways. No single definition was considered adequate; neither were these five shown to be exhaustive. However, as reported in the Review of Literature, criminologists have reached no consensus in defining post-release success and failure. Table 51 (Appendix III) gives an overall descriptive summary of the types of correctional intervention encountered by the subjects within two years after leaving the tested unit, but as it stands, this comprehensive summary is of no analytic use.

The simplest definition of recidivism, R 1, partitioned the sample into two groups: one for which there was no record of "intervention"³ after leaving the tested unit until the

³ "Intervention" refers to a conviction for an offence, or recommitment to Training School for any reason.

time of follow-up, or for whom the only F.P.S. record related to the original committal to the tested Training School unit or to a charge which was withdrawn, or dismissed, or for which the subject was acquitted or discharged. The term used to describe this group was "clear of intervention". The rest of the sample fell into the category "not clear of intervention". The data is presented in Table 3.

Table 3

Number of boys classified by intervention during full period of follow-up

Intervention (if any)	Number
Clear of intervention	95
Not clear of intervention	279
	374

Note: data by units are presented in Table 53, Appendix III.

Because this simple dichotomy partitioned the sample into two grossly unequal-sized groups, and because the recidivistic behaviour of those in the second category varied considerably, methods were sought for categorizing recidivism by various scales. The first such method, R 2, defined recidivism in terms of time spent free in the community after release from

the tested unit. The resulting "Life tables"⁴ classified the sample into nine categories with respect to years after release, the final category being comprised of subjects in the group "clear of intervention". Any form of intervention then fell into one of the time categories: "within 1 year", "between 1 and 2 years", and so on (Table 4). Table 52 and Figure 9 in Appendix III describe the data by proportions of recidivists and non-recidivists according to years after release.

Table 4

Number of boys with first intervention in time categories during full period of follow-up (Life table)

Period of First Intervention	Number
Within 1 year	169
Between 1 and 2 years	58
Between 2 and 3 years	19
Between 3 and 4 years	17
Between 4 and 5 years	9
Between 5 and 6 years	5
Between 6 and 7 years	1
Between 7 and 8 years	1
Clear of intervention	95
	374

⁴ This technique, commonly used in other scientific fields, particularly in Medicine (3) has recently been adapted for use in Criminology (4) and is described in these references.

In view of the fact that recidivism was to be related to the institutional experience in the tested unit, an alternative method, taking into account the likely longitudinal influence of this experience, was also used (R 3). A cut-off point of up to two full years in the community (24 months) was chosen as a maximum time of influence. This choice was based on the results of the life tables which showed that 81.4% of those who were not clear of intervention (recidivists, as in definition R 1) were subject to intervention within two years after leaving the tested unit (Table 5). Figure 1 shows that the proportions increase slowly each year after this cut-off.

With definition R 3, a distinction has also been made in terms of type of intervention. The time in this case considered only the time free in the community before a verified offence⁵ was committed. The 17 subjects who were returned to Training School for reasons other than offences (Table 51, Appendix III) and who subsequently had no offences within two years after leaving the tested unit, that is, those who had a relatively minor form of intervention, were included in the category "no offences within 2 years".

⁵ In the case of juveniles, the term "offence" refers to behaviour which would be regarded as an offence if committed by an adult.

Table 5

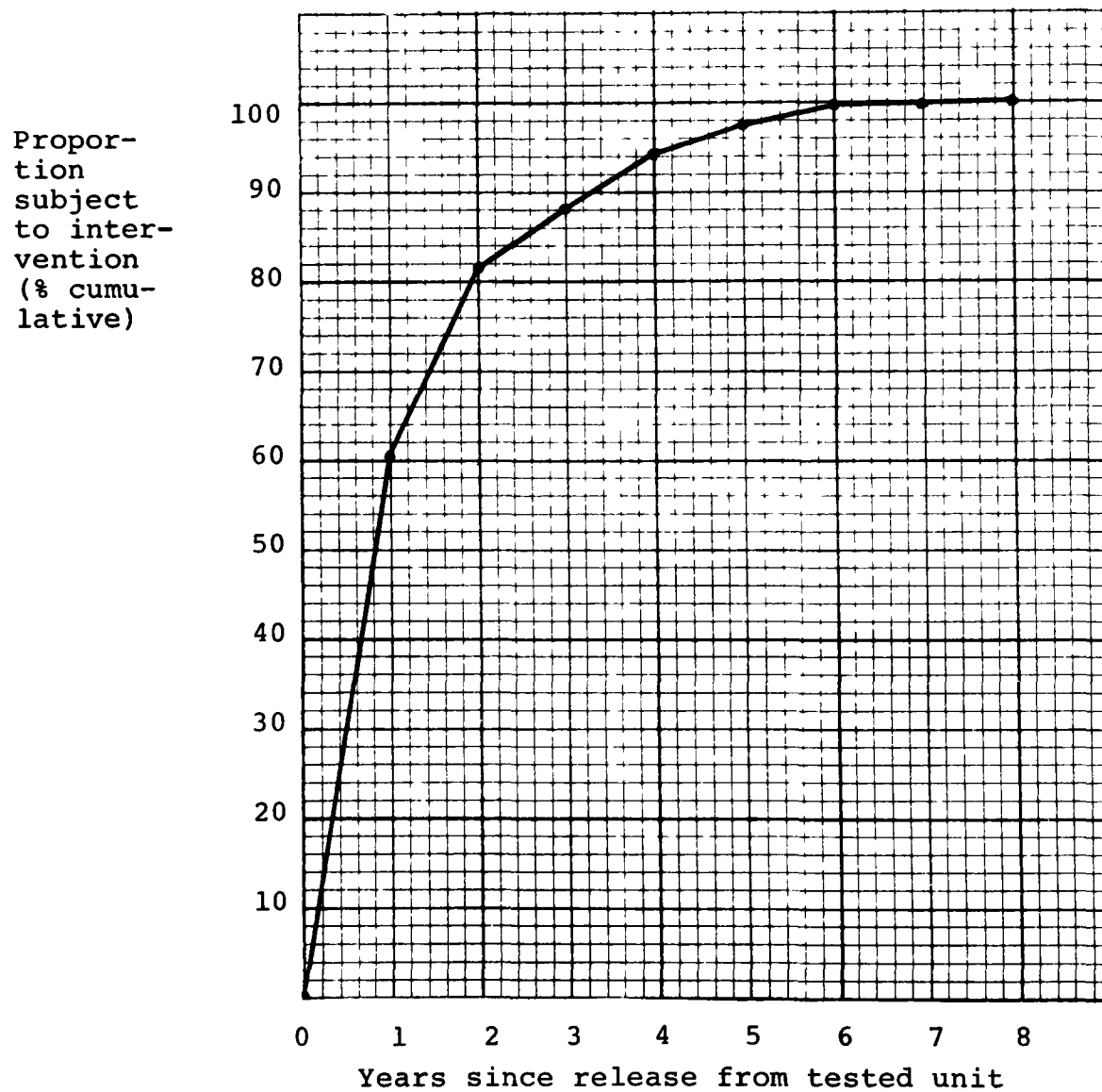
Life table of subjects "not clear of intervention" (R 2)

N = 279

Time elapsed since release from tested unit	Number subject to intervention during year	Number subject to intervention (cumulative)	% subject to intervention (cumulative)
1 year	169	169	60.57
2 years	58	227	81.36
3 years	19	246	88.17
4 years	17	263	94.26
5 years	9	272	97.49
6 years	5	277	99.28
7 years	1	278	99.64
8 years	1	279	100.00

Figure 1

Life table curve of subjects not clear of intervention (R 2)
(data drawn from Table 5)



The two year period for these 17 was computed on the basis of time free in the community; time spent in the Training School due to recommittal extended their chronological cut-off point. This time extension was also used for those who were returned to the Training School for reasons other than offences, but who subsequently did have verified offences within two years free in the community. Using definition R 3, the 164 subjects in the category "no offence within 2 years" were those who were subject to no intervention during the full period of follow-up, as well as those who had no offences within two free years. The category "first offence within one year" included those whose first offence was within 12 months free in the community; those in the category "first offence between one and two years" included those whose first offence was committed between the period of 12 to 24 months free in the community (Table 6).

Table 6

Number of boys with first offence during periods of time free in the community after release from tested unit

Recidivism (R 3)	Number
First offence within 1 year	146
First offence between 1 and 2 years	64
No offence within 2 years	164

374

R 4 defines the relative degree of recidivistic behaviour in terms of "seriousness" of offences; attention was confined again to the first two years free in the community. The operational definition of seriousness of an offence was based on the disposition imposed by the court. A Reformatory or Penitentiary sentence (or what was judged to be the equivalent depending on the jurisdiction) was defined as "serious"; other dispositions were defined as "less serious", including recommitment to Training School for an offence. Such a definition has the disadvantage of being subject to the vagaries of diverse court decisions and the problem introduced by the differential ages of the subjects; however, the alternative, that of determining the maximum possible penalty for a given offence, or of dichotomizing on the basis of indictable and summary offences, proved to be as arbitrary and more difficult in terms of the recorded data, especially for the offences committed by juveniles. It was also thought that the disposition imposed does reflect the more subtle circumstances revolving around the personality and the intention of the offender (in some ways possibly more important with respect to the previous institutional experience than would be the particular charge) as well as the seriousness of the offence seen in terms of societal protection. Table 7 shows the frequencies of serious offences within the two year period.

Table 7

Number of boys with first serious offence during periods of time free in the community after release from tested unit

Recidivism (R 4)	Number
First serious offence within 1 year	59
First serious offence between 1 and 2 years	45
No serious offence within 2 years	270
	374

The recidivism definition R 5 was drawn from the descriptive summary (Table 51, Appendix III) of the various types of intervention imposed during the two year period. The sample was dichotomized after the first category in that table, resulting in two simple classifications: "no intervention" and "any form of intervention" within two years after release from the tested unit (Table 8).

Table 8

Number of boys according to intervention within 2 years after release from tested unit

	Number
No intervention	147
Any form of intervention	227
	374

Note: Data by units are presented in Table 54, Appendix III.

No attempt was made to compare the subjects' total criminal careers subsequent to release from the tested unit; so that a boy having an F.P.S. record as long as three pages was, by any method used in this study, classified in the same category as the boy with a single offence if both had a similar disposition and timing for their first offence. This was considered logical in view of the fact that recidivism was to be related to the dynamics of the subjects' experience in the tested unit only; examining behaviour after further correctional intervention would confound the issue because the influence of the later correctional environments was not known.

The component variables of the Measure of Treatment Potential, the sociometric scores and the behaviour ratings are recorded in the ranked form used in the original study (Tables 9 and 10). A score of 5 was the maximum measure of acceptance and of behaviour within a unit, and a score of 1 the minimum. Within each unit these scores were normally distributed, being subject to pre-determined frequencies (2), making the overall distribution for the total sample very close to normal.

Table 9

Distribution of sociometric acceptance scores

	Number
5 (most accepted)	18
4	94
3 (average)	148
2	95
1 (least accepted)	19
	374

Table 10

Distribution of behaviour rating scores

	Number
5 (most well behaved)	18
4	94
3 (average)	151
2	92
1 (least well behaved)	19
	374

No advantage was considered to be gained by dichotomizing the sociometric and behaviour rating scores into polar groups (by omitting the centre category); however, to avoid low frequencies in extreme cells, a second form of classification combined, respectively, categories 1 and 2, and categories 4 and 5, giving a total of three categories (Tables 11 and 12).

Table 11

Distribution of sociometric acceptance scores

	Number
4 and 5 (more accepted)	112
3 (average)	148
1 and 2 (less accepted)	114
	374

Table 12

Distribution of behaviour rating scores

	Number
4 and 5 (more well behaved)	112
3 (average)	151
1 and 2 (less well behaved)	111
	374

In the event that age might prove to be a confounding variable, these data were also included in the descriptive statistics. Table 47, Appendix III, gives age ranges and the average age of a unit at the time when the M.T.P. was administered. It can be seen that the testing dates for the various units were not necessarily coincident and that the subsequent follow-up periods could not be of uniform duration. Table 47 also gives the average age of unit members at the time of follow-up (1970), as well as the age of the youngest member of each unit at the time of follow-up. In the original study, ages recorded pertained to the last birthday; when the average was taken, one half year was added to minimize the problem of the differential time period between birthday and test. Because the follow-up study was conducted at a time in the year which did not correspond to any of the original testing months, the ages at the time of follow-up are conservative estimates representing minimum possible ages.

When all the information was collected and classified, a code was drawn up and recorded on each Information Sheet. The data was then transferred to IBM cards for sorting.

Experimental Hypotheses

As mentioned in the introduction, it was hypothesized that there would be an inverse relationship between the

Measure of Treatment Potential and recidivism, or, as a corollary, a positive relationship between the M.T.P. and rehabilitation. Specifically, the research design was set up to test the following hypotheses based on the various definitions of the M.T.P. and of recidivism. For testing purposes, each of the categorizations of the M.T.P. was compared with the definitions of the criterion in terms of follow-up success (non-recidivism). A positive association between the M.T.P. and the criterion was expected.

Hypothesis One: The proportion of "successful" subjects (non-recidivists) in each unit will be positively correlated with the M.T.P. of the units. Specifically:

- a) There will be a significant positive correlation between the proportion of subjects in each unit who were "clear of intervention" for the entire follow-up period and the M.T.P. indices of their respective units.
- b) There will be a significant positive correlation between the proportion of subjects in each unit who were in the category "no intervention within two years after release from tested unit" and the M.T.P. indices of their respective units.

Hypothesis Two: There will be a positive association between the number of subjects in various categories of "success" (non-recidivism) and Treatment Potential classified in three categories (High, Medium, and Low). Specifically:

- a) There will be a significant positive association between the three categories of Treatment Potential (High, Medium, and Low) and the number of subjects in the categories: "clear of intervention" or "not clear of intervention" for the entire follow-up period.
- b) There will be a significant difference between the life table curves for subjects in the three categories of Treatment Potential (High, Medium, and Low); the "success" proportions for each year of follow-up will correspondingly be graduated from high to low producing three distinct probability curves.
- c) There will be a significant positive association between the three categories of Treatment Potential (High, Medium, and Low) and the number of subjects in the graduated criterion categories: "no offence within 2 years", "first offence between 1 and 2 years" or "first offence within 1

year" after release from tested unit.

d) There will be a significant positive association between the three categories of Treatment Potential (High, Medium, and Low) and the number of subjects in the categories: "no serious offence within 2 years", "first serious offence between 1 and 2 years" or "first serious offence within 1 year" after release from the tested unit.

e) There will be a significant positive association between the three categories of Treatment Potential (High, Medium, and Low) and the number of subjects in the categories: "no intervention within 2 years" or "any form of intervention within 2 years" after release from tested unit.

Hypothesis Three: There will be a positive association between the number of subjects in various categories of "success" (non-recidivism) and Treatment Potential classified in two categories (Medium-High, and Low). Specifically:

a) There will be a significant positive association between the two categories of Treatment Potential (Medium-High, and Low) and the number of subjects in the categories: "clear of intervention" or "not clear of intervention" for the entire follow-up period.

- b) There will be a significant positive association between the two categories of Treatment Potential (Medium-High, and Low) and the number of subjects in the categories: "no offence within 2 years", "first offence between 1 and 2 years", or "first offence within one year" after release from the tested unit.
- c) There will be a significant positive association between the two categories of Treatment Potential (Medium-High, and Low) and the number of subjects in the categories: "no serious offence within 2 years", "first serious offence between 1 and 2 years", or "first serious offence within 1 year" after release from the tested unit.
- d) There will be a significant positive association between the two categories of Treatment Potential (Medium-High, and Low) and the number of subjects in the categories: "no intervention within 2 years" or "any intervention within 2 years" after release from the tested unit.

These hypotheses were tested by various statistical techniques as shown in the next chapter which presents the results.

References

1. COSSOM, J. (1964) Age and Prognosis: a study of social relationships in correctional institutions. Toronto: Unpublished M.S.W. Research Report.
2. GRYGIER, T.G. (1966) Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report. Toronto: Department of Reform Institutions and the University of Toronto (mimeographed).
3. HILL, B.A. (1937) Principles of Medical Statistics. London: The Lancet Ltd.
4. JAYEWARDENE, C.H.S. (1969) The Measurement of Criminal Homicide. Probation and Child Care Journal, 7, No. 2, 1-4.

CHAPTER 3

RESULTS

Hypothesis One

- a) The proportion within each unit of subjects who were "clear of intervention" was tested against the 18 M.T.P. indices. Table 13 presents the data and Figure 2 gives a graphical representation. The resulting correlation coefficient of $-.23$ was not significant at the $.05$ level, nor was it positive, contrary to what was hypothesized.

- b) The proportion within each unit of subjects who were in the category "no intervention within 2 years" was tested against the 18 M.T.P. indices. Table 14 and Figure 3 present the data. The correlation coefficient of $-.43$ was bordering on significance at the $.05$ level, but was not positive as hypothesized.

Table 13

Proportions of units clear of intervention for full period of follow-up,
according to the Measure of Treatment Potential for each unit

Unit	M.T.P.	Total Number	Number Clear of Intervention	% Clear of Intervention
Bowmanville (South)	.09	27	7	25.9
St. John's (Grade 8)	.22	21	8	38.0
Bowmanville (North)	.26	23	6	26.1
Simcoe (Alexander)	.26	18	4	22.0
St. John's (Grade 7)	.39	27	5	18.5
St. John's (Grades 9 & 10)	.47	19	12	63.2
St. Joseph's (French)	.47	15	4	26.7
Cobourg (Beatty)	.47	17	3	17.6
Bowmanville (Jury)	.48	25	7	28.0
St. Joseph's (English)	.55	17	2	11.8
Simcoe (Athlone)	.55	20	7	35.0
Guelph	.62	26	3	11.5
Simcoe (Connaught)	.63	19	7	36.8
Cobourg (Drake)	.63	19	3	15.8
Bowmanville (Kiwanis)	.69	25	5	20.0
Simcoe (Massey)	.81	21	5	23.8
Cobourg (Ramsay)	.81	18	4	22.0
Bowmanville (Centre)	.85	17	3	17.6
		374	95	

$r = -.23$ (N.S.)

Figure 2

Proportions of units clear of intervention for full period of follow-up, according to the Measure of Treatment Potential for each unit (data drawn from Table 13)

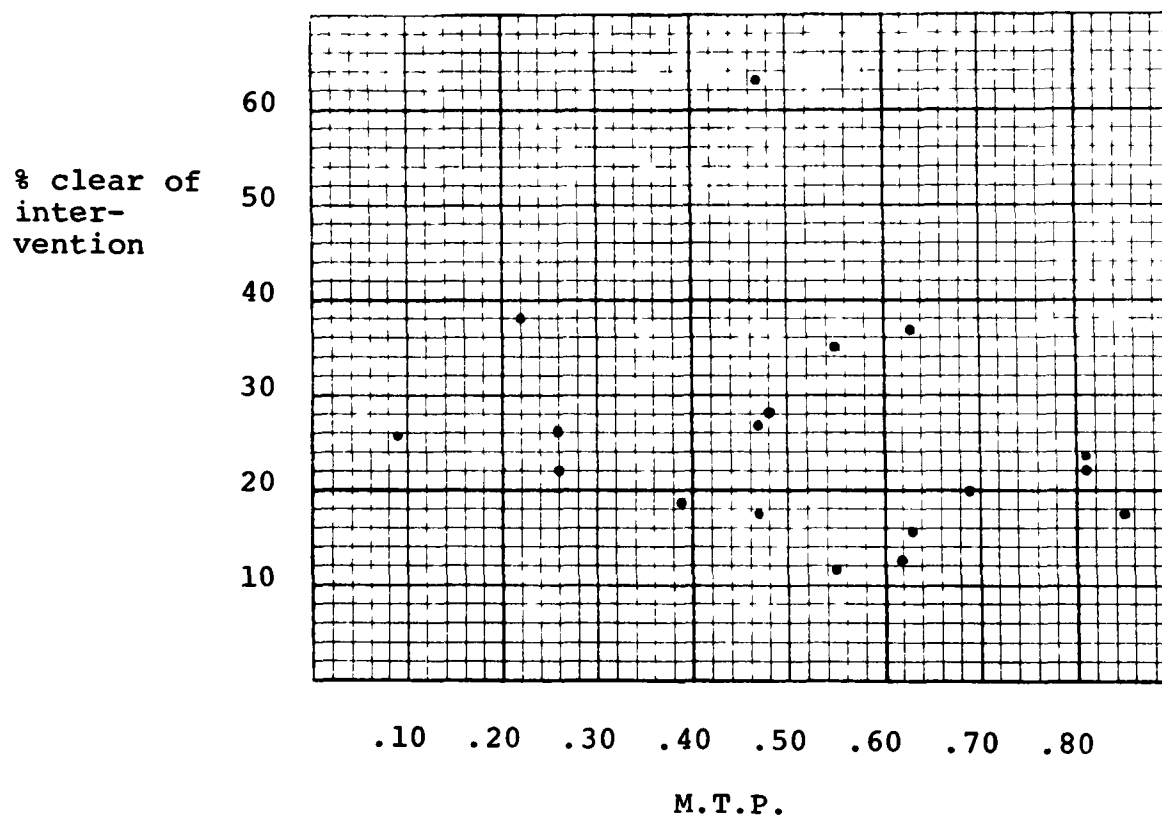


Table 14

Proportions of units of boys with no intervention within two years after release from tested unit, according to the Measure of Treatment Potential for each unit

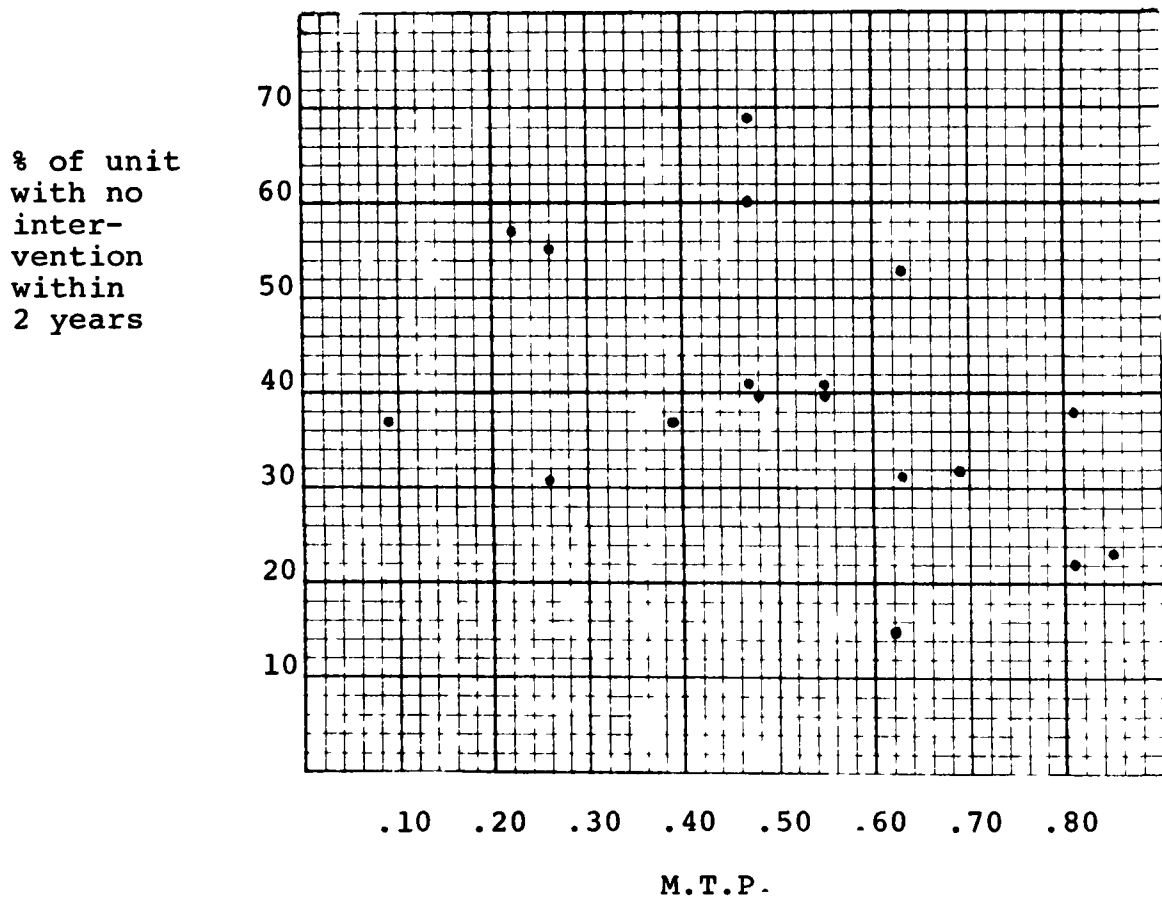
Unit	M.T.P.	Total Number	Number With No Intervention Within 2 Years	% With No Intervention Within 2 Years
Bowmanville (South)	.09	27	10	37.0
St. John's (Grade 8)	.22	21	12	57.1
Bowmanville (North)	.26	23	7	30.4
Simcoe (Alexander)	.26	18	10	55.6
St. John's (Grade 7)	.39	27	10	37.0
St. John's (Grades 9 & 10)	.47	19	13	68.4
St. Joseph's (French)	.47	15	9	60.0
Cobourg (Beatty)	.47	17	7	41.0
Bowmanville (Jury)	.48	25	10	40.0
St. Joseph's (English)	.55	17	7	41.0
Simcoe (Athlone)	.55	20	8	40.0
Guelph	.62	26	4	15.4
Simcoe (Connaught)	.63	19	10	53.0
Cobourg (Drake)	.63	19	6	31.6
Bowmanville (Kiwanis)	.69	25	8	32.0
Simcoe (Massey)	.81	21	8	38.0
Cobourg (Ramsay)	.81	18	4	22.0
Bowmanville (Centre)	.85	17	4	23.5
		374	147	

$r = -.43$

$(P < .10; P > .05)$

Figure 3

Proportion of units of boys with no intervention within two years after release from tested unit, according to the Measure of Treatment Potential for each unit
(data drawn from Table 14)



Hypothesis Two

- a) The three categories of Treatment Potential (High, Medium, and Low) were tested against the criterion categories: "clear of intervention" and "not clear of intervention". The results are shown in Table 15. Pearson's Chi-square was not significant at the .05 level.

- b) Table 16 shows the life table frequencies for the three categories of Treatment Potential (High, Medium, and Low) and Figure 4 graphs the curves of the proportion clear of intervention from the time of release until the end of each year of follow-up. An observable difference is noted in the shapes of the curves, but analysis has not been completed to determine any statistical parameters which may distinguish between them. In any case, the results can be seen to be negative, contrary to what was hypothesized.

- c) Three categories of Treatment Potential (High, Medium, and Low) were tested against the criterion definition relating to offences within two years after release from the tested unit (Table 17). The Chi-square value was significant at the .05 level. A calculation of the Goodman and Kruskal gamma coefficient gives an index of $-.1895$ which confirms that the association is not positive.

Table 15

Number of boys in categories of Treatment Potential,
and intervention during the full period of follow-up

	Treatment Potential			
	High	Medium	Low	
Clear of Intervention	30	16	49	95
Not Clear of Intervention	115	46	118	279
	145	62	167	374

$$\chi^2 = 3.07 \quad (\text{N.S.})$$

Table 16

Life tables for three categories of Treatment Potential

Years After Release From Tested Unit	High T.P. (N = 145)			Medium T.P. (N = 62)			Low T.P. (N = 167)		
	Number Clear of Intervention At Year End	Proportion Clear of Intervention From Start of Year to Year End	Proportion Clear of Intervention From Time of Release Until Year End	Number Clear of Intervention At Year End	Proportion Clear of Intervention From Start of Year to Year End	Proportion Clear of Intervention From Time of Release Until Year End	Number Clear of Intervention At Year End	Proportion Clear of Intervention From Start of Year to Year End	Proportion Clear of Intervention From Time of Release Until Year End
0	145			62			167		
1	66	.455	.455	39	.629	.629	100	.599	.599
2	44	.667	.303	25	.641	.403	78	.780	.467
3	41	.932	.283	21	.840	.339	66	.846	.395
4	36	.878	.248	18	.857	.290	57	.864	.341
5	34	.944	.234	18	1.000	.290	50	.877	.299
6	31	.912	.214	17	.944	.274	49	.980	.293
7	31	1.000	.214	16	.941	.258	49	1.000	.293
8	30	.968	.207	16	1.000	.258	49	1.000	.293

Figure 4

Comparison of life table curves for three categories of Treatment Potential (data drawn from Table 16)

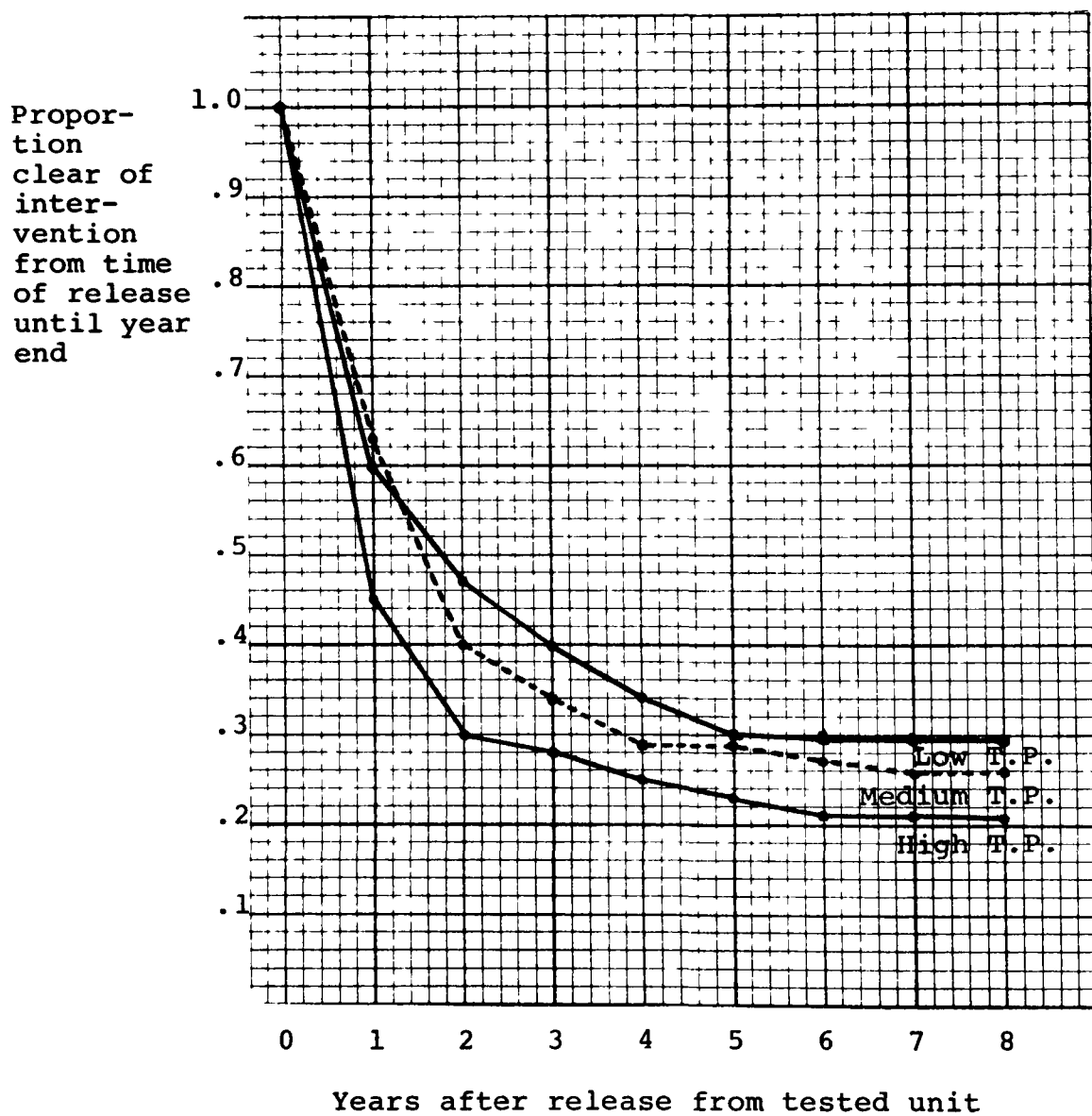


Table 17

Number of boys in offence categories up to two years free
in the community, according to three categories of
Treatment Potential

	Treatment Potential			
	High	Medium	Low	
No Offence Within 2 Years	52	29	83	164
First Offence Between 1 and 2 Years	24	14	26	64
First Offence Within 1 Year	69	19	58	146
	145	62	167	374

$$\chi^2 = 9.50 \quad P < .05$$

$$\phi = -.1895 \quad P < .01$$

- d) The three categories of Treatment Potential (High, Medium, and Low) were tested against the criterion definition relating to serious offences within two years after release from the tested unit (Table 18). The Chi-square value was not significant at the .05 level.
- e) Treatment Potential in three categories, (High, Medium, and Low) was tested against the criterion definition relating to intervention within two years, as shown in Table 19. The Chi-square value was significant at the .02 level. The association is negative: 46.7% of those in the Low Treatment Potential category had no known intervention within two years; 40.3% of those in the Medium Treatment Potential category, and 30.3% of those in the High Treatment Potential category were similarly not subject to intervention.

Table 18

Number of boys in serious offence categories up to two years free in the community, according to three categories of Treatment Potential

	Treatment Potential			
	High	Medium	Low	
No Serious Offence Within 2 Years	98	49	123	270
First Serious Offence Between 1 and 2 Years	20	8	17	45
First Serious Offence Within 1 Year	27	5	27	59
	145	62	167	374

$$\chi^2 = 4.86 \quad (\text{N.S.})$$

Table 19

Intervention within two years free in the community after release from tested unit, according to three categories of Treatment Potential

	Treatment Potential			
	High	Medium	Low	
No Intervention Within 2 Years	44	25	78	147
Any Form of Intervention Within 2 Years	101	37	89	227
	145	62	167	374

$$\chi^2 = 8.74 \quad P < .02$$

Note: A table presenting frequencies for different types of intervention during the two year period and according to the three categories of Treatment Potential is in Appendix III, Table 55.

Hypothesis Three

- a) Two categories of Treatment Potential (Medium/High and Low) were tested against the criterion categories relating to intervention during the entire period of follow-up. Table 20 shows the data. The Chi-square value (with Yates' correction) was not significant at the .05 level.
- b) Two categories of Treatment Potential (Medium/High and Low) were tested against the criterion relating to offences within two years, as shown in Table 21. The Chi-square value was not significant at the .05 level.
- c) Two categories of Treatment Potential (Medium/High and Low) were tested against the criterion definition relating to serious offences within two years, as shown in Table 22. The Chi-square value was not significant at the .05 level.
- d) Two categories of Treatment Potential (Medium/High and Low) were tested against the criterion definition relating to intervention within two years, as shown in Table 23. The Chi-square value (with Yates' correction) was significant at the .02 level. The association can be seen to be negative, contrary to what was hypothesized.

Table 20

Intervention during full period of follow-up, according to two categories of Treatment Potential

	Treatment Potential		
	Medium/High	Low	
Clear of Intervention	46	49	95
Not Clear of Intervention	161	118	279
	207	167	374

$$\chi^2 = 3.82 \quad (\text{N.S.})$$

Table 21

Number of boys in offence categories up to two years free in the community after release from tested unit, according to two categories of Treatment Potential

	Treatment Potential		
	Medium/High	Low	
No Offence Within 2 Years	81	83	164
First Offence Between 1 and 2 Years	38	26	64
First Offence Within 1 Year	88	58	146
	207	167	374

$$\chi^2 = 4.21 \text{ (N.S.)}$$

Table 22

Number of boys in serious offence categories up to two years free in the community after release from tested unit, according to two categories of Treatment Potential

	Treatment Potential		
	Medium/High	Low	
No Serious Offence Within 2 Years	147	123	270
Serious Offence Between 1 and 2 Years	28	17	45
Serious Offence Within 1 Year	32	27	59
	207	167	374

$$\chi^2 = .98 \quad (\text{N.S.})$$

Table 23

Intervention within two years free in the community after
release from tested unit, according to two categories of
Treatment Potential

	Treatment Potential		
	Medium/High	Low	
No Intervention Within 2 Years	69	78	147
Any Intervention Within 2 Years	138	89	227
	207	167	374

$$\chi^2 = 6.38 \quad P < .02$$

The results show that none of the hypotheses can be accepted. No significant positive association has been found between the Measure of Treatment Potential and the criterion of successful rehabilitation (non-recidivism) as the latter has been variously defined in this study.

CHAPTER 4

DISCUSSION OF THE FINDINGS

In considering the negative results of this study, further exploration was conducted in order first to attempt to test the adequacy of the theory of Treatment Potential based on its component measures, and second, to investigate certain possible confounding variables, which could indicate inadequacies in the research design.

Behaviour Rating and Recidivism:

Behaviour rating by staff members was one of the variables used in computing the M.T.P. for each unit. Despite the fact that there was no significant inverse relationship between Treatment Potential and recidivism, the behaviour rating variable on its own proved to be a good predictor with respect to intervention during the full period of follow-up. Table 24 presents the data for which the Chi-square was significant at the .01 level.

When the behaviour rating scores were compressed into three categories to avoid small cell values, the Chi-square was significant at the .02 level (Table 25).

Table 24

Distribution of behaviour rating scores in five categories, according to intervention during full period of follow-up

Intervention (If Any)	Behaviour Rating					N
	1	2	3	4	5	
Clear of Intervention	2	21	32	29	11	95
Not Clear of Intervention	17	71	119	65	7	279
	19	92	151	94	18	374

$$\chi^2 = 17.56$$

$$P < .01$$

Table 25

Distribution of behaviour rating scores in three categories, according to intervention during full period of follow-up

Intervention (If Any)	Behaviour Rating			N
	1&2	3	4&5	
Clear of Intervention	23	32	40	95
Not Clear of Intervention	88	119	72	279
	111	151	112	374

$$\chi^2 = 8.98$$

$$P < .02$$

The mean behaviour rating for those "clear of intervention" was 3.27; the mean for the rest of the sample was 2.91 (Table 26). The t test showed the difference between the means to be significant at the .01 level.

Table 26

Distributions of recidivists (any form of intervention) and non-recidivists over full period of follow-up, according to behaviour rating scores

Behaviour Rating Scores	Number of Recidivists	Number of Non-Recidivists
1	17	2
2	71	21
3	119	32
4	65	29
5	7	11
	279	95
	Mean Behaviour Rating Score = 2.9068	Mean Behaviour Rating Score = 3.2737

t = 3.25

P < .01

Thus, the rating of behaviour by Training School staff members appears to have had a positive association with subsequent non-recidivism over the full period of follow-up, regardless of the M.T.P. for individual units. It is suggested that further research be conducted using the other definitions of recidivism as a tentative confirmation of this finding. That good behaviour within an institution appears to be associated with later successful rehabilitation is contrary to the expectations of certain observers (3 and 4) who suggest that adaptation within a custodial setting is not a sound basis for predicting future behaviour within the community.

Sociometric Acceptance and Recidivism

The other component of the Measure of Treatment Potential, the sociometric acceptance scores of the boys, was tested against the recidivism definitions R 1 and R 3. Comparing the five categories of sociometric acceptance with intervention over the full period of follow-up, the association was found to be significant at the .02 level (Table 27).

Using three categories of sociometric acceptance, the association was significant at the .01 level (Table 28). The mean acceptance score for those "clear of intervention" was 3.26; for the rest of the sample it was 2.90 (Table 29).

Table 27

Distribution of sociometric acceptance scores in five categories, according to intervention over full period of follow-up

Intervention (If Any)	Acceptance					N
	1	2	3	4	5	
Clear of Intervention	3	19	32	32	9	95
Not Clear of Intervention	16	76	116	62	9	279
	19	95	148	94	18	374

$$\chi^2 = 12.95$$

$$P < .02$$

Table 28

Distribution of sociometric acceptance scores in three categories, according to intervention over full period of follow-up

Intervention (If Any)	Acceptance			N
	1&2	3	4&5	
Clear of Intervention	22	32	41	95
Not Clear of Intervention	92	116	71	279
	114	148	112	374

$$\chi^2 = 10.78$$

$$P < .01$$

The t test shows the difference in means to be significant at the .01 level.

Table 29

Distributions of recidivists (any form of intervention) and non-recidivists for the full follow-up period, according to sociometric acceptance scores

Acceptance Scores	Number of Recidivists	Number of Non-Recidivists
1	16	3
2	76	19
3	116	32
4	62	32
5	9	9
	279	95
	Mean Acceptance Score = 2.8996	Mean Acceptance Score = 3.2632
	t = 3.14	P < .01

Thus, the results indicate that boys who were not subject to intervention during the full period of follow-up tended to have been above average in acceptance, regardless of the M.T.P. of their unit. Those who were more highly regarded by their peers in the institution were more likely to achieve long term rehabilitation. This finding does not corroborate the observations of Clemmer (1) who suggested that the inmate community is organized around the values of its most persis-

tent and least improvable members, and of Sykes (6) who found that the most anti-social inmates were most respected by the inmate population.

When the five categories of sociometric acceptance and the three categories of sociometric acceptance were tested against R 3, the definition relating to offences within two years, the association in both cases was significant at the .05 level (Tables 30 and 31).

Table 30

Distribution of sociometric acceptance scores in five categories, according to offences up to two years after release from tested unit

Offence Period	Acceptance					N
	1	2	3	4	5	
First Offence Within 1 Year	9	39	55	39	4	146
First Offence Between 1 and 2 Years	3	20	31	10	0	64
No Offence Within 2 Years	7	36	62	45	14	164
	19	95	148	94	18	374

$$\chi^2 = 15.75$$

$$P < .05$$

Table 31

Distribution of sociometric acceptance scores in three categories, according to offences up to two years after release from tested unit

Offence Period	Acceptance			N
	1&2	3	4&5	
First Offence Within 1 Year	48	55	43	146
First Offence Between 1 and 2 Years	23	31	10	64
No Offence Within 2 Years	43	62	59	164
	114	148	112	374
	$\chi^2 = 9.80$		P < .05	

An examination of the direction of association in the latter two tables, based on recidivism by offences, reveals an inconsistency. While the frequencies for non-recidivists (no offences within two years) show a pronounced and regular proportional increase from low acceptance to high acceptance, the two categories of recidivism are not distinguishable in reversing the trend. The mean acceptance score is lowest for the middle category at 2.75. It is highest for those with no offences within the two year follow-up (3.14); for those first apprehended within one year after release (the

more serious category of recidivism) the mean acceptance is 2.93 (Table 32).

Table 32

Mean acceptance scores according to offences during first two years after release from tested unit

Offence Period	Number	Mean Acceptance
First Offence Within 1 Year	146	2.932
First Offence Between 1 and 2 Years	64	2.750
No Offence Within 2 Years	164	3.140
	374	

When the recidivism definition based on offences is dichotomized into two categories: "offence within 2 years" and "no offence within 2 years", combining the offence categories, and tested against the five categories of sociometric acceptance and against the three categories of sociometric acceptance, both results are in the expected direction (Tables 33 and 34), but only the former is significant at the .05 level. These results tentatively confirm the finding that non-recidivists had higher sociometric status

(regardless of the M.T.P. for their units) than recidivists, but further research, making use of the other definitions of recidivism, is indicated.

Table 33

Distribution of sociometric acceptance scores in five categories, according to offences within two years after release from tested unit

	Acceptance					N
	1	2	3	4	5	
Offence Within 2 Years	12	59	86	49	4	210
No Offence Within 2 Years	7	36	62	45	14	164
	19	95	148	94	18	374

$$\chi^2 = 11.01$$

$$P < .05$$

Table 34

Distribution of sociometric acceptance scores in three categories, according to offences within two years after release from tested unit

	Acceptance			N
	1&2	3	4&5	
Offence Within 2 Years	71	86	53	210
No Offence Within 2 Years	43	62	59	164
	114	148	112	374

$$\chi^2 = 5.52 \quad (\text{N.S.})$$

It has been mentioned that R 3 (offences within two years) and M.T.P. 2 (three categories) have a negative association: the higher the M.T.P., the lower the rehabilitation frequencies. The Chi-square was significant at the .05 level. When a third dimension was added, sociometric acceptance, the Chi-square for this three dimensional table was not significant (Table 35). It is suggested, however, that other definitions and other variables, particularly behaviour rating, be similarly tested in three dimensional tables; where there is a finding of overall significance, parameterization should be attempted to determine the nature of the interactions involving the various major constructs tested in this study.

In summary, despite the fact that the correlation, within each unit, between the two components of the M.T.P. was not found to be a predictor with respect to recidivism, there is some indication that independently each has predictive power. These results in themselves do not relate to the sociological premise of this study, namely that a conflict between staff and inmate values or, conversely, an agreement on values, would indicate the influence exerted by the institutional milieu, which in turn was expected to be related to future behaviour. It is important then to investigate intervening variables which may have to be taken into account when using the M.T.P.

Table 35

Distribution of sociometric acceptance scores in three categories by
Treatment Potential in three categories and by recidivism
(offences within 2 years free after release from tested unit)

	Acceptance									
	1&2	3	4&5	1&2	3	4&5	1&2	3	4&5	
First Offence Within 1 Year	18	24	16	5	8	6	25	23	21	146
First Offence Between 1 and 2 Years	10	12	4	7	6	1	6	13	5	64
No Offence Within 2 Years	23	30	30	6	11	12	14	21	17	164
	51	66	50	18	25	19	45	57	43	374

Treatment
Potential

Low

Medium

High

$$\chi^2 = 26.016 \quad (\text{N.S.}; 20 \text{ d.f.})$$

In the description of the original sample, and in Tables 1 and 2, variations between units are observed in terms of average age, size of units, date of testing, staff-pupil ratio for the institution, and type of institutional setting. Only age and date of testing were suspected of having possible confounding influence on the M.T.P., since the other factors were expected to be reflected directly in the measure.

Age and Treatment Potential

Cossom (2) concluded that age was indeed an important factor with respect to the M.T.P. His study on the original data showed that units of younger boys had a significantly higher M.T.P. than those of older boys. However, in addition to the 18 units of juvenile boys used in this follow-up study, he included five units of young men from the Ontario Training Centre at Brampton. When the average age of the juvenile units alone was tested for correlation with the M.T.P., no association was found (Table 36 and Figure 5).

The average for units of low Treatment Potential was 15.1647; for those of Medium-High Treatment Potential it was 15.2313. The t test shows no significant difference between these means (Table 37). Thus, the variation in age between units does not appear to have been related to the M.T.P.

Table 36

Mean age within units at time of M.T.P. testing, according to
the Measure of Treatment Potential of units

Unit	M.T.P.	Mean Age
Bowmanville (South)	.09	15.83
St. John's (Grade 8)	.22	15.21
Bowmanville (North)	.26	15.50
Simcoe (Alexander)	.26	15.00
St. John's (Grade 7)	.39	14.22
St. John's (Grades 9 & 10)	.47	15.60
St. Joseph's (French)	.47	14.83
Cobourg (Beatty)	.47	14.56
Bowmanville (Jury)	.48	15.30
St. Joseph's (English)	.55	15.15
Simcoe (Athlone)	.55	15.40
Guelph	.62	15.69
Simcoe (Connaught)	.63	15.61
Cobourg (Drake)	.63	14.03
Bowmanville (Kiwans)	.69	15.30
Simcoe (Massey)	.81	16.13
Cobourg (Ramsay)	.81	14.39
Bowmanville (Centre)	.85	15.97

$r = .05$ (N.S.)

Figure 5

Mean age within units at time of M.T.P. testing, according to the M.T.P. of units (data drawn from Table 36)

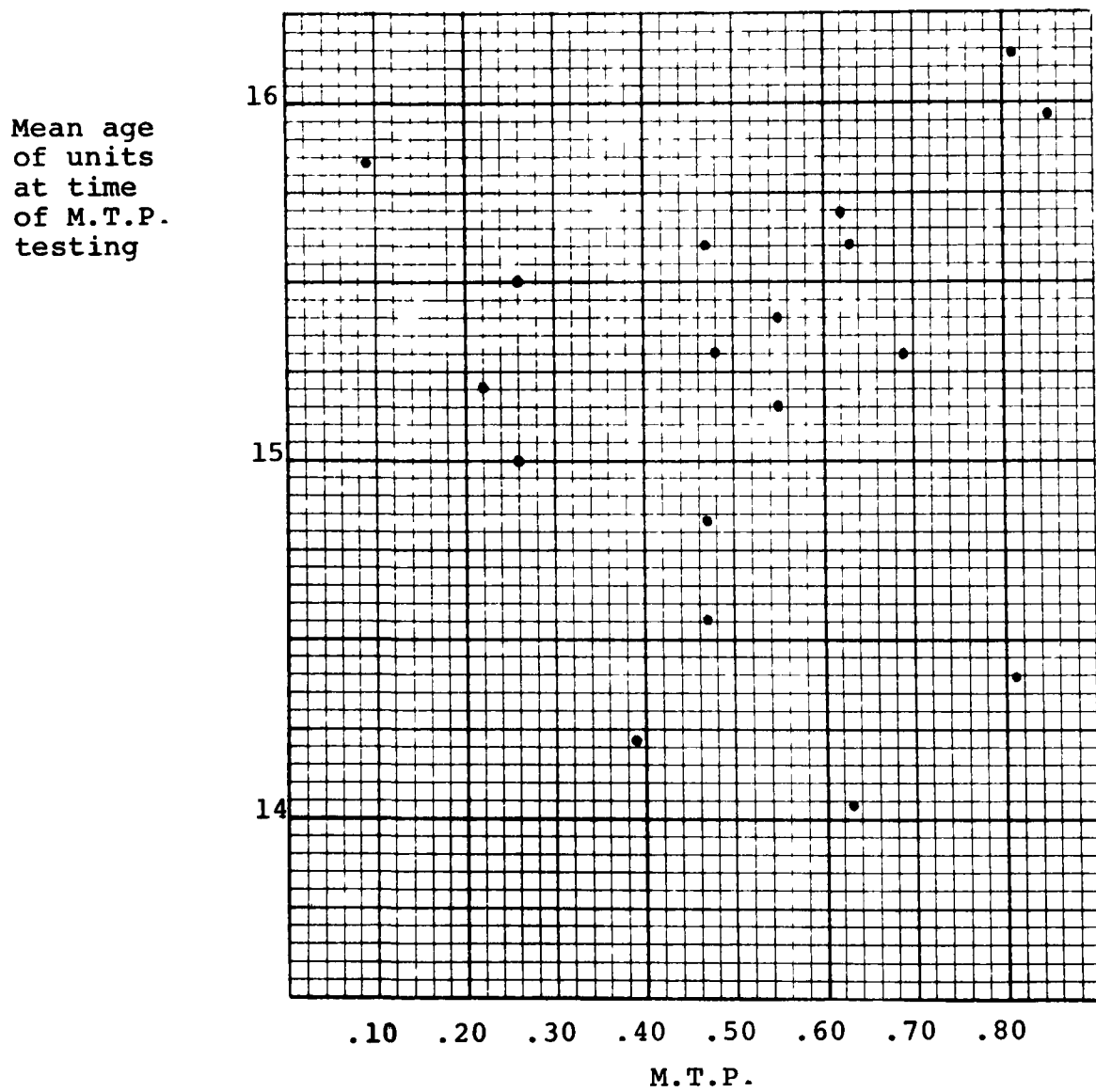


Table 37

Mean age of subjects at time of M.T.P. testing, according to Treatment Potential in two categories

Treatment Potential	Number	Mean Age
Low	167	15.1647
Medium-High	207	15.2313
	374	

$t = 1.11$ (N.S.)

Age and Recidivism

In order to examine the question of whether or not the date of testing, or, in other words, the particular generation of pupils, related to the M.T.P., it was first established whether or not recidivists and non-recidivists differed in age at the time of testing and at the time of follow-up. Using the definition R 5, the proportion in each unit of subjects in the category: "no intervention within 2 years" was compared with the average age of each unit at the time of testing. The correlation co-efficient (.005) was not significant (Table 38). The mean age of the non-recidivists was 15.2144; the mean for the recidivists was 15.2280 (Table 39). The value of t was .19, again insignificant.

Table 38

Mean age within units at time of M.T.P. testing, according to proportion of units with no intervention within two years

Unit	Number	Mean Age	Number With No Intervention Within 2 Years	% With No Intervention Within 2 Years
Bowmanville (South)	27	15.83	10	37.0
St. John's (Grade 8)	21	15.21	12	57.1
Bowmanville (North)	23	15.50	7	30.4
Simcoe (Alexander)	18	15.00	10	55.6
St. John's (Grade 7)	27	14.22	10	37.0
St. John's (Grades 9 & 10)	19	15.60	13	68.4
St. Joseph's (French)	15	14.83	9	60.0
Cobourg (Beatty)	17	14.56	7	41.0
Bowmanville (Jury)	25	15.30	10	40.0
St. Joseph's (English)	17	15.15	7	41.0
Simcoe (Athlone)	20	15.40	8	40.0
Guelph	26	15.69	4	15.4
Simcoe (Connaught)	19	15.61	10	53.0
Cobourg (Drake)	19	14.03	6	31.6
Bowmanville (Kiwanis)	25	15.30	8	32.0
Simcoe (Massey)	21	16.13	8	38.0
Cobourg (Ramsay)	18	14.39	4	22.0
Bowmanville (Centre)	17	15.97	4	23.5

$r = .005$ (N.S.)

Table 39

Mean age at time of M.T.P. testing, according to intervention within two years free after release from tested unit

Intervention (If Any)	Number	Mean Age
Any Form of Intervention	227	15.2280
No Intervention	147	15.2144
	374	

$t = .19$ (N.S.)

Using definition R 1, the proportion "clear of intervention" in each unit was compared with the average age of each unit at the time of testing (Table 40). The correlation coefficient was again insignificant ($r = .28$), but there was a significant difference in the mean ages for the recidivists and non-recidivists, 15.181 and 15.374: $t = 2.06$ (Table 41). The results do not give a clear indication that there was a significant association between recidivism and age at the time of testing.

Table 40

Mean age within units at time of M.T.P. testing, according to proportion of subjects clear of intervention during full period of follow-up

Unit	Number	Mean Age	Number Clear of Intervention	% Clear of Intervention
Bowmanville (South)	27	15.83	7	25.9
St. John's (Grade 8)	21	15.21	8	38.0
Bowmanville (North)	23	15.50	6	26.1
Simcoe (Alexander)	18	15.00	4	22.0
St. John's (Grade 7)	27	14.22	5	18.5
St. John's (Grades 9 & 10)	19	15.60	12	63.2
St. Joseph's (French)	15	14.83	4	26.7
Cobourg (Beatty)	17	14.56	3	17.6
Bowmanville (Jury)	25	15.30	7	28.0
St. Joseph's (English)	17	15.15	2	11.8
Simcoe (Athlone)	20	15.40	7	35.0
Guelph	26	15.69	3	11.5
Simcoe (Connaught)	19	15.61	7	36.8
Cobourg (Drake)	19	14.03	3	15.8
Bowmanville (Kiwanis)	25	15.30	5	20.0
Simcoe (Massey)	21	16.13	5	23.8
Cobourg (Ramsay)	18	14.39	4	22.0
Bowmanville (Centre)	17	15.97	3	17.6
			95	

$r = .28$ (N.S.)

Table 41

Mean age of subjects at time of M.T.P. testing, according to intervention during full period of follow-up

Intervention (If Any)	Number	Mean Age
Not Clear of Intervention	279	15.181
Clear of Intervention	95	15.374
	374	
	$t = 2.06$	$P < .05$

The relationship between recidivism and age at follow-up was more conclusive. Using the definition R 5, the proportion of those in each unit with "no intervention within 2 years after release" was found to be correlated negatively (-.61; see Table 42) with the average age of each unit at the time of follow-up. Using the definition R 1, the proportion in each unit of subjects in the category "clear of intervention" was tested for correlation with the average age within each unit at the time of follow-up. The correlation coefficient in this case was -.16 and not significant (Table 42). Figures 6 and 7 give graphical representations of the data in Table 42.

Table 42

Proportions of units clear of intervention for full period of follow-up and for two years after release from tested unit, according to mean age at follow-up of boys from each tested unit

Unit	Mean Age at Follow-up	% Clear of Intervention	% With No Intervention Within 2 Years
Bowmanville (South)	23.83	25.9	37.0
St. John's (Grade 8)	21.21	38.0	57.1
Bowmanville (North)	23.50	26.1	30.4
Simcoe (Alexander)	21.00	22.0	55.6
St. John's (Grade 7)	20.22	18.5	37.0
St. John's (Grades 9 & 10)	21.60	63.2	68.4
St. Joseph's (French)	20.83	26.7	60.0
Cobourg (Beatty)	20.56	17.6	41.0
Bowmanville (Jury)	23.30	28.0	40.0
St. Joseph's (English)	21.15	11.8	41.0
Simcoe (Athlone)	21.40	35.0	40.0
Guelph	23.69	11.5	15.4
Simcoe (Connaught)	21.61	36.8	53.0
Cobourg (Drake)	22.03	15.8	31.6
Bowmanville (Kiwanis)	23.30	20.0	32.0
Simcoe (Massey)	22.13	23.8	38.0
Cobourg (Ramsay)	22.39	22.0	22.0
Bowmanville (Centre)	23.97	17.6	23.5

% clear of intervention and age at follow-up $r = -.16$ (N.S.)

% with no intervention within 2 years and age at follow-up $r = -.61$ $P < .01$

Figure 6

Proportion of units with no intervention within two years after release,
according to the mean age of tested units at time of follow-up
(data drawn from Table 42)

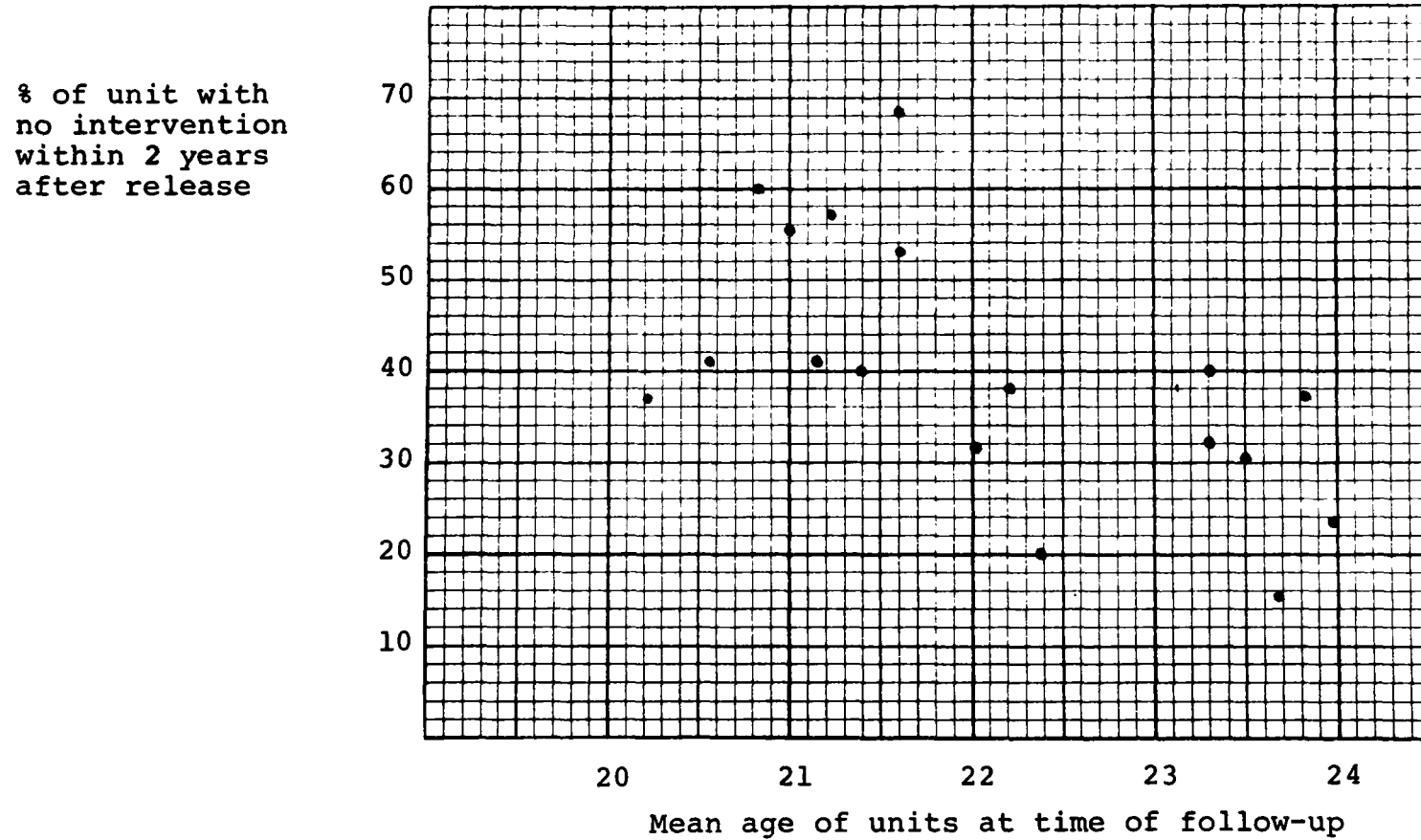
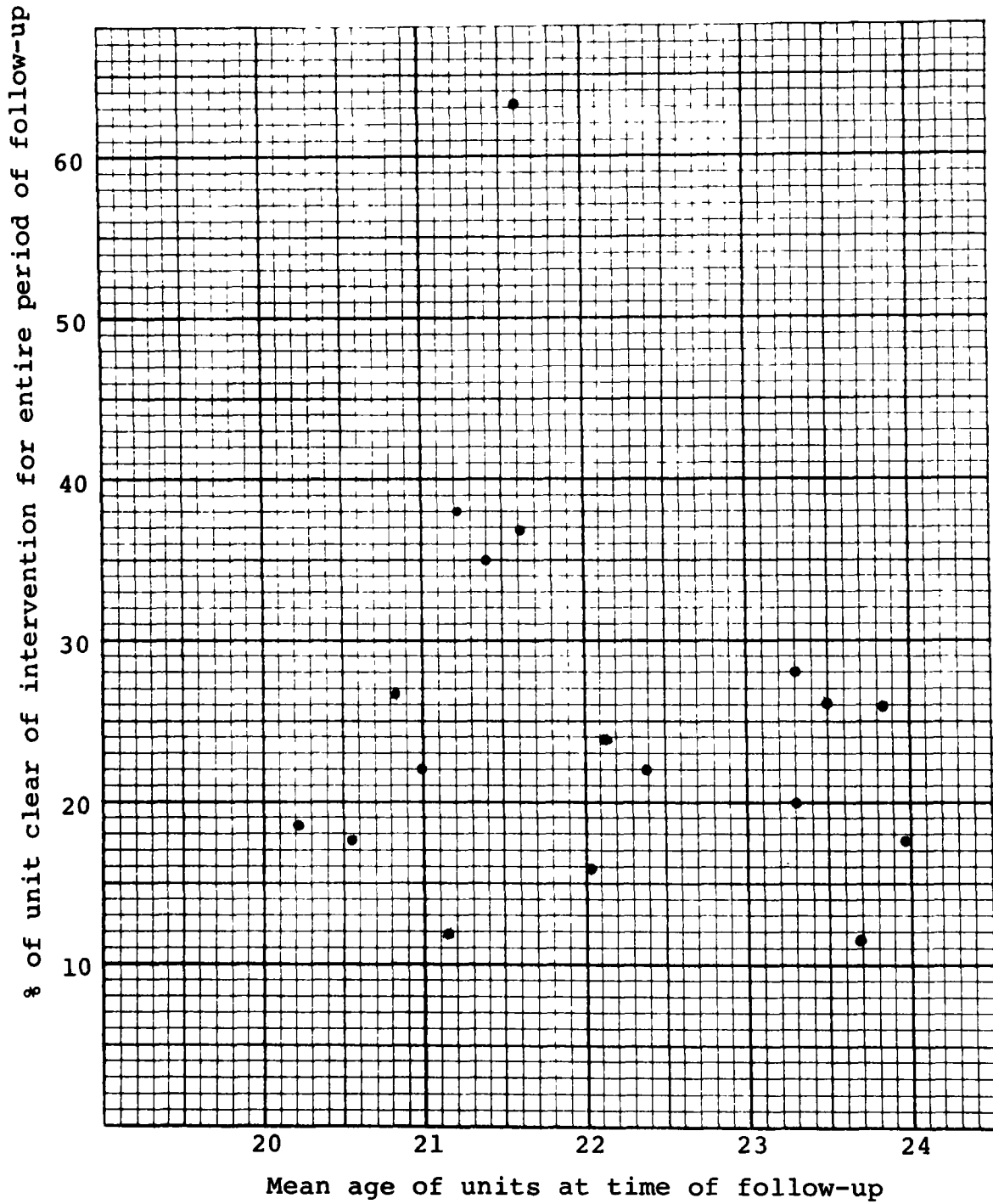


Figure 7

Proportion of units clear of intervention for full period of follow-up, according to the mean age of tested units at time of follow-up (data drawn from Table 42)



Thus, when the entire period of follow-up is considered, there was no significant relationship between age and recidivism; however, older boys at the time of follow-up tended more frequently than younger boys to have recidivated within the first two years after their release. This result, taken in conjunction with the fact that there was no clear indication of age difference for recidivists and non-recidivists at the time of testing, indicated that the time of testing itself, that is, the "generational" factor may have been associated with the length of the period between release and intervention, this being shorter for boys tested on the earlier dates.

It was found, in fact, that with respect to recidivism, there were two separate populations: those tested in the early months of 1962, and those tested in late 1963 or early 1964 (Table 56, Appendix III). In terms of intervention within two years after release from the tested unit, there was a clear association between recidivism/non-recidivism and the two populations; the Chi-square was significant at the .001 level (Table 43). When calculated for the whole period of follow-up, no evidence was found of any relationship between recidivism and year of testing (Table 44). Moreover, there was no age difference for the two populations at the time of testing (Table 45).

Table 43

Intervention within two years free, according to year of
M.T.P. testing

Year of Testing	Non-Recidivists	Recidivists	
1962	53	127	180
1963-64	94	100	194
	147	227	374

$$\chi^2 \text{ (with Yates' correction)} = 13.36 \quad P < .001$$

Table 44

Intervention during full period of follow-up, according to
year of M.T.P. testing

	Non-Recidivists	Recidivists	
1962	38	142	180
1963-64	57	137	194
	95	279	374

$$\chi^2 \text{ (with Yates' correction)} = 2.95 \quad (\text{N.S.})$$

Table 45

Mean age of subjects at time of M.T.P. testing, according to year of testing

Year of Testing	Number	Mean Age
1962	180	15.243
1963-64	194	15.181
	374	

$t = 1.05$ (N.S.)

The conclusion is reinforced, that while in the long run there is no association between the time of testing and the proportion of recidivists, when the line is drawn after the two year period, those tested in early 1962 appeared to be less successful (clear of intervention) than those tested on later dates. Data and life table curves for these two groups are presented in Table 46 and Figure 8. Analysis by parameterization is in Appendix IV.

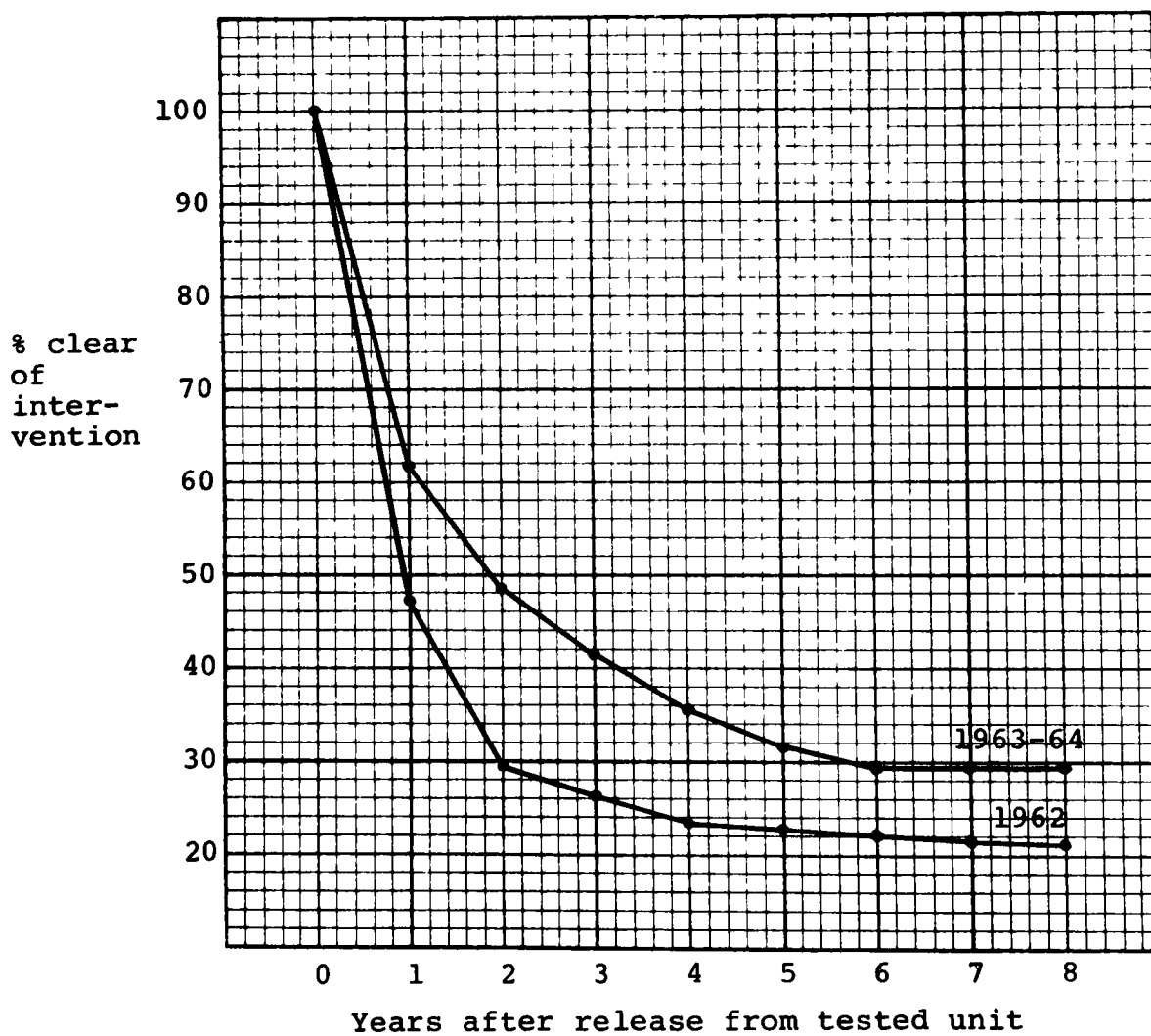
Table 46

Life tables for subjects administered the M.T.P. during 1962 and during 1963-64

Years After Release From Tested Unit	1962 (N = 180)		1963-64 (N = 194)	
	Number Clear of Intervention	% Clear of Intervention	Number Clear of Intervention	% Clear of Intervention
0	180	100.0	194	100.0
1	85	47.2	120	61.9
2	53	29.5	94	48.5
3	47	26.2	81	41.8
4	42	23.5	69	35.6
5	41	22.9	61	31.5
6	40	22.3	57	29.4
7	39	21.7	57	29.4
8	38	21.1	57	29.4

Figure 8

Life table curves for subjects administered the M.T.P. during 1962 and during 1963-64 (data drawn from Table 46)



The foregoing discussion suggests that further analysis is required to determine possible reasons for the "generational" factor and to make allowance for its effect before proper testing of the relationship between Treatment Potential and recidivism can be assessed. It may be true that differences in after-care services and other aspects of treatment programmes were a result of evolving general social policies, but, among schools there may also have been a diversity in objectives and modes of intervention. In view of the new Ontario Plan in Corrections, first articulated in 1965 (5), which calls for expansion of post-discharge rehabilitative services as well as emphasizing the importance of harmonious staff-inmate relations, standardization of factors which may have invalidated the research design of this study may, in the future, permit appropriate comparisons of treatment milieu against a criterion of recidivism which is not confounded by such complex intervening variables.

References

1. CLEMMER, D. (1940) The Prison Community. Boston: Christopher House.
2. COSSOM, J. (1964) Age and Prognosis: a study of social relationships in correctional institutions. Toronto: Unpublished M.S.W. Research Report.
3. GRYGIER, T.G. (1966) Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report. Toronto: Department of Reform Institutions and the University of Toronto (mimeographed).
4. KIRKPATRICK, A.M. (1962) Prisons and their Products. Canadian Journal of Corrections, 4, No. 3, 160-178.
5. ONTARIO. (1969) The Ontario Plan in Corrections. Toronto: Department of Correctional Services.
6. SYKES, G. (1958) Society of Captives. Princeton, N.J.: Princeton University Press.

SUMMARY AND CONCLUSIONS

The Measure of Treatment Potential as a single, independent predictor was not validated by the research design used in this study. There was no significant positive association between the M.T.P. and follow-up success (non-recidivism) whether the latter was defined in terms of the entire follow-up period, or a two-year period; whether in terms of offences only, or any type of intervention; whether in terms of all offences or of serious offences only. On the contrary, some statistically significant results suggest a negative association between the M.T.P. and follow-up success. The criterion measures showed a lack of consistent discrimination, due possibly to a complex of intervening variables or, perhaps, to the difficulties inherent in any study of recidivism involving juveniles, whose legal status may inhibit the standardization of dispositions and obscure differences of behaviour.

Apart from the conundrum of hidden criminality and the fallibility of tracing techniques, three possible explanations for the negative findings were proffered, two of which were tested. The first was a suspected intervening variable: The average age of subjects in their Training School units. Younger subjects are known to be more amenable to treatment, but those who begin their delinquent career at an early age are more likely to be persistent offenders, unless extraordinary

measures are taken to overcome the negative prognosis inherent in their precocious delinquency. While age at the time the M.T.P. was administered does not provide an exact measure of the onset of a delinquent career, it does allow a relative assessment. Units of younger boys obviously contain youthful starters; units of older boys may contain a number of late starters. If the M.T.P. for units of younger boys were significantly higher than for those of older boys, the finding might reflect temporary conformity to treatment, whereas in the long term, their early committal might be nullified by their more negative prognosis. In such a case, a high M.T.P. index could not necessarily be expected to be predictive of a high level of rehabilitation.

In its simplest form, this first suggest intervening variable had to be rejected. It was found that the average age of subjects in their units at the time when the M.T.P. was administered was not significantly associated either with recidivism or with the M.T.P.

The other intervening variable, which was tested in order to explain the negative findings, related to a possible change in treatment over time. There was a period of 24 months between the date when the M.T.P. was first administered to a unit, and the date when the last unit was tested. Testing dates were not uniformly distributed over this time span;

the M.T.P. was administered to the units either at the beginning of the period, or near the end. By dichotomizing the units on this basis, it was found that boys included in the early months of the testing programme exhibited a different pattern of recidivism than did those who were tested towards the end of the programme. These two populations did not differ in age at the time of testing; the difference related, rather, to the time of their birth, and the factor involved has been termed "generational" since at the time of follow-up (the same for all subjects) they were not chronological peers. It was found that the boys in the earlier generation tended to be subject to intervention within two years after release from the tested unit to a significantly greater extent than did boys of the later generation. In the long run, there was no significant difference in recidivism for the two populations. This finding of a different pattern of recidivism could be interpreted as an effect of improved treatment, especially in terms of after-care service which may, more recently, have retarded the return to deviant behaviour. Were this the case, the need for a more rigorous research design would be indicated to take into account evolving social policies and to determine appropriate definitions of recidivism which would best reflect the intended predictive power of the M.T.P.

The third suggested explanation for the negative findings is purely methodological; it relates to the technical constructs of the M.T.P. and questions the direct relationship between quality of treatment and its outcome. The measure may, indeed, be capable of quantifying the degree of convergence of staff-inmate values; but between this measure of the 'therapeutic impact' of a unit and its potential for rehabilitation may rest an intervening variable in the form of two interconnected factors: the quality of the treatment in relation to the type of boys being treated. It was in the nature of the instrument that certain factors were always kept constant; exploratory findings suggest that this third intervening variable may have been obscured by these constants.

Although the M.T.P. by itself did not indicate the likelihood of successful rehabilitation for members of a unit, both of its component measures, the behaviour rating and sociometric acceptance scores proved to be predictors within the units. It may seem paradoxical that the components of the measure were predictive while the measure itself was not, but in fact the two findings are not in conflict. The M.T.P. (the z score of the correlation coefficient between the two components) was constant for each individual within a unit; so it could only differentiate between units. On the other hand, average behaviour rating and average sociometric status were constant

between units, having been subject to forced normal distributions; it is possible, then, to differentiate between these scores within units only. This may explain why the differences between those scoring high and those scoring low on the components cannot be related to the M.T.P. which involves different units of measurement, namely, of groups rather than of individual boys. It was the M.T.P. and not its components which was the subject of this study and the findings concerning the components do not explain the negative results; they do, however, suggest the need to differentiate between the M.T.P. of units and the recidivism potential of individual boys. An hypothesis for further research is suggested in the following terms.

If it can be concluded from the foregoing discussion that differences in the M.T.P. of units relate, not to behaviour after release, but to the intensity of care given during confinement, then it is possible to hypothesize that more effective treatment programmes may have been administered in units where the members were more likely to become recidivists. Units where the risk was greatest may have received the best treatment. In such cases, the M.T.P. may have been high, but the results of the intensive care may merely have had the effect of equalizing the recidivism potential of these groups of pupils with those given less intensive treatment because

they were seen to be lesser risks. If this were in fact the case, classification and other correctional policy would be responsible for bringing the units to a common denominator in terms of the risk of recidivism. A differential in quality of treatment between units would not affect the ranking of behaviour and acceptance within units; the best behaved and most accepted were found to be the best risks in any unit, but the group as a whole may have been motivated more positively by treatment designed to meet their greater needs.

Such conclusions may be regarded as far-fetched attempts to explain negative results, but in fact, it may not be just an ex post facto explanation; it could have been foreseen. As Leslie Wilkins has suggested, it is the task of the researcher to predict, and the task of the policy maker to spoil the predictions by more effective treatment¹. In this light, the negative findings may mean that the policy maker achieved his objectives. To test this tentative conclusion would be a complex undertaking; it would involve not only a rigorous design, but also reliable data allowing accurate predictions to be made in isolation from treatment effects before the interaction between these predictors and treatment could be examined.

¹ Inferred from Wilkins, L.T. 1955 Symposium on Prediction Methods in Criminology, Brit.J.Criminology, 6, No. 2; interpretation confirmed in a private communication.

BIBLIOGRAPHY

- ALLPORT, G.W. (1935) Attitudes, in C. Murchison, A Handbook of Social Psychology. Worcester, Mass.: Clark University Press, 798-844.
- CLEMMER, D. (1940) The Prison Community. Boston: Christopher House.
- COSSOM, J. (1964) Age and Prognosis: a study of social relationships in correctional institutions. Toronto: Unpublished M.S.W. Research Report.
- COWDEN, J.E. (1966) Predicting Institutional Adjustment and Recidivism in Delinquent Boys. Journal of Criminal Law, Criminology, and Police Science, 57, 39-44.
- CROFT, I.J. and GRYGIER, T.G. (1956) Social Relationships of Truants and Juvenile Delinquents. Human Relations, 9, 439-466.
- CUSSON, M. (1968) Relations Sociales dans les Pavillons d'un Centre de Rééducation. Montréal: Université de Montréal (unpublished Master's thesis).
- de SWAAF, T. (1968) A Study of White Oaks Village. Toronto: Report presented to the Department of Reform Institutions.
- ENGLAND, R.W. (1955) A Study of Postprobation Recidivism Among Five Hundred Federal Offenders. Federal Probation, 19, 10-16.
- EVANS, Kathleen. (1966) Sociometry and Education. London: Routledge and Kegan Paul.
- GAZAN, H.S. (1968) The Informal System: an agent of change in juvenile rehabilitation. Crime and Delinquency, 14, No. 4, 340-345.
- GLUECK, S. and GLUECK, Eleanor T. (1968) Delinquents and Non-Delinquents in Perspective. Cambridge, Mass.: Harvard University Press.
- GLUECK, S. and GLUECK, Eleanor T. (1945) After-Conduct of Discharged Offenders. London: University of Cambridge.

- GOFFMAN, E. (1961) Asylums. Chicago: Aldine.
- GOTTFREDSON, D.M. (1967) Assessment and Prediction Methods in Crime and Delinquency, Task Force Report: Juvenile Delinquency. President's Commission on Law Enforcement and Administration of Justice. Washington, D.C., 171-187.
- GOODMAN, L.A. and KRUSKAL, W.H. (1954) Measures of Association for Cross-Classifications. Journal of the American Statistical Association, 49, 732-764.
- GRYGIER, T.G., GUARINO, Margaret, NEASE, Barbara, and SAKOWICZ, Louise. (1968) Social Interaction in Small Units: new methods of treatment and its evaluation. Canadian Journal of Corrections, 10, 252-260.
- GRYGIER, T.G. (1966) Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report. Toronto: Department of Reform Institutions and the University of Toronto (mimeographed).
- GRYGIER, T.G. (1961) Current Correntional and Criminological Research in Canada: present framework, trends and prospects. Canadian Journal of Corrections, 3, 423-444.
- HILL, B.A. (1937) Principles of Medical Statistics. London: The Lancet Ltd.
- JAYEWARDENE, C.H.S. (1969) The Measurement of Criminal Homicide. Probation and Child Care Journal, 7, No. 2, 1-4.
- KIRKPATRICK, A.M. (1962) Prisons and their Products. Canadian Journal of Corrections, 4, No. 3, 160-178.
- LAULICHT, J. (1962) A Study of Recidivism in One Training School. Journal of Crime and Delinquency, 8, No. 2, 161-171.
- MANNHEIM, H. and WILKINS, L.T. (1955) Prediction Methods in Relation to Borstal Training. London: Her Majesty's Stationery Office.
- MORENO, J.L. (1934) Who Shall Survive? Washington: Nervous and Mental Disease Monograph Series, No. 38.

- MURPHY, G., MURPHY, L.B., and NEWCOMB, T.B. (1937) Experimental Psychology. New York: Harper.
- NEASE, Barbara, and SAKOWICZ, Louise. An Exploratory Study of the Group Dynamics Operating in the Female Reformatory at Mercer (mimeographed).
- NORTHWAY, Mary L. (1967) A Primer of Sociometry. Toronto: University of Toronto Press.
- ONTARIO (1969) The Ontario Plan in Corrections. Toronto: Department of Correctional Services.
- ONTARIO (1964) Annual Report of the Department of Reform Institutions. Toronto: Queen's Printer.
- ONTARIO (1962) Annual Report of the Department of Reform Institutions. Toronto: Queen's Printer.
- POLSKY, H.W. (1962) Cottage Six. New York: Rusell Sage Foundation.
- SCHRAG, C. (1954) Leadership Among Prison Inmates. American Sociological Review, 19, 37-42.
- SCOTT, J.W. and HISSON, J.B. (1969) Changing the Delinquent Subculture: a sociological approach. Crime and Delinquency, 14, No. 5, 499-510.
- STOTT, D.H. (1960) The Prediction of Delinquency from Non-delinquent Behaviour. British Journal of Delinquency, 10, 195-210.
- SMITH, G.W. and WILKINS, L.T. (1968) Sound an Alarm: the problem of bias. Journal of Research in Crime and Delinquency, 5, 115-121.
- SYKES, G. (1958) Society of Captives. Princeton, N.J.: Princeton University Press.
- THOMAS, C.W. (1970) Toward a More Inclusive Model of the Inmate Contraculture. Criminology: An Interdisciplinary Journal, 8, No. 3, 251-261.

WILKINS, L.T. (1955) Some Developments in Prediction Methodology in Applied Social Research. British Journal of Sociology, 6, 348-354.

WILKINS, L.T. (1955) Symposium on Predictive Methods in the Treatment of Delinquency. British Journal of Delinquency, 6, No. 2, 82-87.

APPENDIX I

Information Sheet (Follow-up)

1. Full and exact name:
2. Training School: House:
Dates:
3. Date of Birth: Day _____ Month _____ Year _____
4. Parents:
5. Parents' address:
6. Siblings:
7. Other places of residence:
8. Other Training Schools attended:
School Dates
9. Courts Date Offence (or unmanageable)
10. Termination of wardship (date):
Placement:

11. School grade attained:

12. Other identifying characteristics:

Racial/ethnic origin:

Religion:

Colour of hair/eyes:

Scars, etc.:

F.P.S. No. (?):

13. Miscellaneous:

APPENDIX II

Administration and Scoring of the Sociometric and Behaviour Rating Questionnaires

The information and instructions in this appendix are reproduced (in abridged form) from the report of the original study, "Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report"¹, in which the Measure of Treatment Potential was calculated.

The sociometric questionnaire

Put your name here Underneath is a list of questions about your likes and dislikes. Always choose 3 names from the boys in this group -- all names are on the blackboard and you cannot choose any other. Read the whole list of questions through before making your choice. WHAT YOU WRITE DOWN IS SECRET AND WILL NOT BE SHOWN TO ANY OTHER BOY OR STAFF MEMBER.

LIKES

Write first the name of the boy you like most, then the name of the boy you like second best, then the third best.

A. Which boys do you like most?

1. 2. 3.

¹ GRYGIER, T.G. (1966) Social Adjustment, Personality, and Behaviour in Training Schools in Ontario: a research report. Toronto: Department of Reform Institutions and the University of Toronto (mimeographed).

B. With which do you like to play most?

1. 2. 3.

C. With which would you like to go on a trip?

1. 2. 3.

D. With which would you like to be photographed most?

1. 2. 3.

DISLIKES

Write first the name of the boy you like least of all, then the names of the two boys you like next least.

E. Which boys do you like least?

1. 2. 3.

F. With which would you like to play least?

1. 2. 3.

G. With which would you like to go on a trip least?

1. 2. 3.

H. With which would you like to be photographed least?

1. 2. 3.

Administration of the sociometric questionnaire

Procedure concerning the administration of the sociometric test has now been determined. We should go through the following steps:

- (a) We get from the Superintendent or the House Master a list of all the children in the House, or the School if there

are no Houses. We go with him through the list, crossing out all names which should be excluded according to our list of exclusions; at some Schools we may make a superficial examination of the files for the sole purpose of excluding unsuitable subjects. We ask him to gather all those remaining on the list in a school room allocated for testing. This school room should have separate benches or other seats, with pencils for each of the children. If it is administratively inconvenient to gather in the school room only the children whose names remain on the list, we may have to gather all the children of the House or School, and then ask those whose names have been crossed out to leave.

- (b) We then ask the remaining children to raise their hands if they have been at the Training School less than one month. If any hands are raised, we check this with the Superintendent or House Master.
- (c) We ask the children to raise their hands if they are awaiting placement and have been told that the arrangements are being made for them to be placed. We again check with the Superintendent or House Master.

- (d) We ask children to raise their hands if any of them have returned to the Training School in the last two weeks. We check whether such returns have been from placement or escape -- they might have returned from a short holiday which would not disqualify them from participation in the testing procedure.
- (e) We now ask which of the children have difficulty in reading or writing. We again check with the House Master or Superintendent.
- (f) Next we note any children who have been obviously unable to concentrate on the procedure so far. This lack of concentration may take the form of noisy, disorganized behaviour, talking to other children, or staring into the distance without taking in anything we say. We check with the Superintendent or the House Master whether this is their usual pattern of behaviour; if so, they can again be excluded and we cross their names out.
- (g) We now ask the children to raise their hands if their age is less than twelve, check their age with the Superintendent or House Master, and cross out their names if appropriate. If we are testing an older group and propose to administer the LIT² later on, we ask the

² A psychological test also included in the original research.

children to raise their hands if their age is less than fourteen; in this case we do not ask the question about the age of twelve.

(Note: some details need not be checked in this fashion, provided we have seen the files or have otherwise been assured that errors are improbable.)

- (h) We now have probably crossed out several names and we can check who should and who does remain in the class room. All those whose names do not appear on the list or were on the list but have been crossed out should at this point leave the room.
- (i) We now have the final list of children who should be tested. This list should be put on the blackboard in block capitals and our sheet would correspond exactly to what is on the blackboard.

At this point we can introduce the sociometric test and tell the Superintendent or House Master that his presence will no longer be necessary.

Once the sociometric test has begun, our group is fixed: even those who cannot read or write are the subjects of our research and their names can be mentioned on the sociometric questionnaires filled in by other children. On the other hand any names not on the blackboard should not appear in the sociometric questionnaire and it may be useful to walk around

and check whether the children are filling in their questionnaires accordingly. We can then explain to the children any errors that they may be making. Such errors are likely to include referring to a name which is not on the blackboard; referring to the same name as the first, second and third choice for the same preference or activity; or referring to the same name with respect to the same type of activity both in Likes and Dislikes.

Children who have finished should remain in the room, unless other arrangements have been made with the Training School staff. If the LIT is to be administered after the sociometric questionnaire, no children should leave the room unless they have shown clear inability to comprehend the sociometric questionnaire or to write the answers.

Scoring of the sociometric questionnaire

The questionnaire was scored in the following manner. The names earlier put on the blackboard were listed. The researcher then counted the like and dislike choices for each student listed. First choices were given a weight of 3, second choices 2, and third choices 1.

This provided preference (positive) and rejection (negative) scores. Then the acceptance scores (WA) were arrived at by subtracting the rejection scores (WR) from the preference

scores (WP); the result could be either positive or negative. The emotional response scores (WE) were arrived at by adding preferences and rejections together, disregarding plus or minus signs.

Standard sociometric scores were obtained by using a fixed normal distribution (or curve) with a mean of 3. The four categories were called, for this purpose, P (preference), R (rejection), A (acceptance), and E (emotional response). The score 5 indicated the child who was most liked, least rejected, most positively accepted, and to whom there was the greatest emotional response. There was only one score 5 and one score 1 (the opposite of 5) in most groups tested, but larger groups had two extreme scores at each end. The distribution of the other scores is a fixed normal distribution arranged as a Procrustean Table to Stretch Data on.

Procrustean Table to Stretch Data on

N	$f(\chi=1)$	$f(\chi=2)$	$f(\chi=3)$	$f(\chi=4)$	$f(\chi=5)$	$\Sigma(\chi-3)^2$
12	1	3	4	3	1	14
13	1	3	5	3	1	14
14	1	3	6	3	1	14
15	1	4	5	4	1	16
16	1	4	6	4	1	16
17	1	4	7	4	1	16
18	1	4	8	4	1	16
19	1	5	7	5	1	18
20	1	5	8	5	1	18

N	$f(\chi=1)$	$f(\chi=2)$	$f(\chi=3)$	$f(\chi=4)$	$f(\chi=5)$	$\Sigma(\chi-3)^2$
21	1	5	9	5	1	18
22	1	5	10	5	1	18
23	2	5	9	5	2	26
24	2	6	8	6	2	28
25	2	6	9	6	2	28
26	2	6	10	6	2	28
27	2	6	11	6	2	28
28	2	7	10	7	2	30
29	2	7	11	7	2	30
30	2	7	12	7	2	30
31	2	7	13	7	2	30
32	2	8	12	8	2	32
33	2	8	13	8	2	32
34	2	8	14	8	2	32
35	2	8	15	8	2	32
36	2	9	14	9	2	34
37	2	9	15	9	2	34
38	2	9	16	9	2	34
39	3	9	15	9	3	42
40	3	9	16	9	3	42
41	3	10	15	10	3	44
42	3	10	16	10	3	44
43	3	10	17	10	3	44
44	3	11	16	11	3	46
45	3	11	17	11	3	46
46	3	11	18	11	3	46
47	3	11	19	11	3	46
48	3	12	18	12	3	48
49	3	12	19	12	3	48
50	3	12	20	12	3	48
51	3	12	21	12	3	48
52	3	13	20	13	3	50
53	3	12	21	13	3	50
54	4	13	20	13	4	58
55	4	13	21	13	4	58

Administration and scoring of the behaviour rating questionnaire

The full list of names will be presented for rating to the House Master, or to the Superintendent if there is no division of the Training School into houses. The rater (the Superintendent or House Master) will choose one child whom he regards as best behaved and this child will receive the behaviour rating 5. He will choose one child whom he regards as worst behaved and he will receive the rating of 1. The group of next best behaved children will receive a rating of 4, and the next worst behaved children the rating of 2. The number of next best behaved children and the number of next worst behaved children will depend on the number of children in the group. No group smaller than 15 will be considered a group and none will be included in our investigation. If the group is from 15 to 18, 4 children will receive the rating of 4, and 4 children the rating of 2. If the number of children in the group is from 19 to 22 inclusive the corresponding figure is 5. If the number of children is from 23 to 26 inclusive the figure is 6. If the number of children in the whole group is from 27 to 30 the figure is 7. If the number of children in the group is over 30 the corresponding figure is 8. No group over 34 is expected.

This method can be presented more clearly in the following table:

Frequencies of rating corresponding to the number of children in the group

Ratings					No. of children in the group
1	2	3	4	5	
1	4	5	4	1	15
1	4	6	4	1	16
1	4	7	4	1	17
1	4	8	4	1	18
1	5	7	5	1	19
1	5	8	5	1	20
1	5	9	5	1	21
1	5	10	5	1	22
1	6	9	6	1	23
1	6	10	6	1	24
1	6	11	6	1	25
1	6	12	6	1	26
1	7	11	7	1	27
1	7	12	7	1	28
1	7	13	7	1	29
1	7	14	7	1	30
1	8	13	8	1	31
1	8	14	8	1	32
1	8	15	8	1	33
1	8	16	8	1	34

Note: This method was in fact modified at the beginning of the administration of behaviour rating sheets, to conform precisely to the Procrustean Table.

APPENDIX III

Additional Tables and Figures

Table 47

Descriptive data of M.T.P. testing and follow-up sample

Unit	M.T.P.	Date of M.T.P. Testing	Age Range at Date of M.T.P. Testing	Ave. Age at Time of M.T.P. Testing	Ave. Age at Time of Follow-up	Youngest Boy at Time of Follow-up
Bowmanville (South)	.09	Feb 1962	15-17	15.83	23.83	23
St. John's (Grade 8)	.22	Jan 1964	13-16	15.21	21.21	19
Bowmanville (North)	.26	Feb 1962	14-16	15.50	23.50	22
Simcoe (Alexander)	.26	Nov 1963	13-16	15.00	21.00	19
St. John's (Grade 7)	.39	Jan 1964	12-16	14.22	20.22	18
St. John's (Grades 9 & 10)	.47	Jan 1964	14-16	15.60	21.60	20
St. Joseph's (French)	.47	Nov 1963	14-15	14.83	20.83	20
Cobourg (Beatty)	.47	Nov 1963	13-15	14.56	20.56	19
Bowmanville (Jury)	.48	Feb 1962	14-16	15.30	23.30	22
St. Joseph's (English)	.55	Nov 1963	13-15	15.15	21.15	19
Simcoe (Athlone)	.55	Nov 1963	13-16	15.40	21.40	19
Guelph	.62	Jan 1962	14-17	15.69	23.69	22
Simcoe (Connaught)	.63	Nov 1963	14-16	15.61	21.61	20
Cobourg (Drake)	.63	Feb 1962	13-15	14.03	22.03	21
Bowmanville (Kiwanis)	.69	Feb 1962	14-17	15.30	23.30	22
Simcoe (Massey)	.81	Nov 1963	14-16	16.13	22.13	20
Cobourg (Ramsay)	.81	Feb 1962	13-15	14.39	22.39	21
Bowmanville (Centre)	.85	Feb 1962	14-17	15.97	23.97	22

Table 48

The Measure of Treatment Potential, its level of significance, sample size, and number of subjects eliminated from follow-up sample, by units

Unit	M.T.P.	Level of Significance	Number in Follow-up Sample	Number Eliminated From Original Sample
Bowmanville (South)	.09	N.S.	27	1
St. John's (Grade 8)	.22	N.S.	21	
Bowmanville (North)	.26	N.S.	23	
Simcoe (Alexander)	.26	N.S.	18	
St. John's (Grade 7)	.39	N.S.	27	
St. John's (Grades 9 & 10)	.47	N.S.	19	
St. Joseph's (French)	.47	N.S.	15	
Cobourg (Beatty)	.47	N.S.	17	
Bowmanville (Jury)	.48	$\leq .05$	25	
St. Joseph's (English)	.55	$\leq .05$	17	
Simcoe (Athlone)	.55	$\leq .05$	20	
Guelph	.62	$\leq .01$	26	2
Simcoe (Connaught)	.63	$\leq .02$	19	
Cobourg (Drake)	.63	$\leq .02$	19	
Bowmanville (Kiwanis)	.69	$\leq .001$	25	1
Simcoe (Massey)	.81	$\leq .001$	21	
Cobourg (Ramsay)	.81	$\leq .01$	18	1
Bowmanville (Centre)	.85	$\leq .01$	17	
			374	5

Table 49

Subjects with F.P.S. records (N = 276)

Categories Relating to First Entry on F.P.S. Record and Intervention When Juveniles	Number of Subjects
Original committal to Training School only entry in F.P.S. record	3
"Withdrawn" etc. only entry in F.P.S. record; no recommitments to Training School	15
"Withdrawn" only entry in F.P.S. record; recommitment to Training School for an offence	1
First offence in F.P.S. record committed later than two years after release from tested unit; no recommitments to Training School	51
First offence in F.P.S. record committed later than two years after release from tested unit; recommitments to Training School for reasons other than offences	9
First offence in F.P.S. record committed within two years after release from tested unit	197
	<hr/> 276

Table 50

Subjects without F.P.S. records (N = 98)

Categories Relating to Follow-up Information Derived from Training School Files	Number of Subjects
No intervention after release from tested unit	77*
Returned to Training School for reasons other than an offence; no offences after release from tested unit	8
Committed an offence after release from tested unit; not returned to Training School	1
Returned to Training School for an offence; no adult record	8
Adult record later than two years after release from tested unit	1
Adult record within two years after release from tested unit	3
	—
	98

* Of the 77 subjects, 47 (61%) had their wardship terminated because of "satisfactory adjustment".

Table 51

Number of boys in categories of type of intervention within two years free in the community after release from tested unit

Type of Intervention	Number of Subjects
No intervention	147
Returned to Training School only ("Counselling")	1
Returned to Training School only ("A.W.L. from placement" or "Failure to adult to placement")	10
Returned to Training School only ("Unmanageable")	6
Less serious offence within 2 years, but not within 1 year	39
Less serious offence within 1 year	67
Serious offence within 2 years, but not within 1 year	25
Less serious offence within 1 year; plus serious offence within 2 years	20
Serious offence within 1 year	59
	374

Table 52

Life Table (N = 374)

Years After Release From Tested Unit	Number Clear Of Intervention At Year End	Number With First Intervention During Year	Proportion With First Intervention During Year	Proportion Clear Of Intervention From Start Of Year To Year End	Proportion Clear Of Inter- vention From Release To Year End
0	374				
1	205	169	.452	.548	.548
2	147	58	.283	.717	.393
3	128	19	.129	.871	.342
4	111	17	.133	.867	.297
5	102	9	.081	.919	.273
6	97	5	.049	.961	.259
7	96	1	.010	.990	.257
8	95	1	.010	.990	.254

Figure 9

Life table curve for total sample
(data drawn from Table 52)

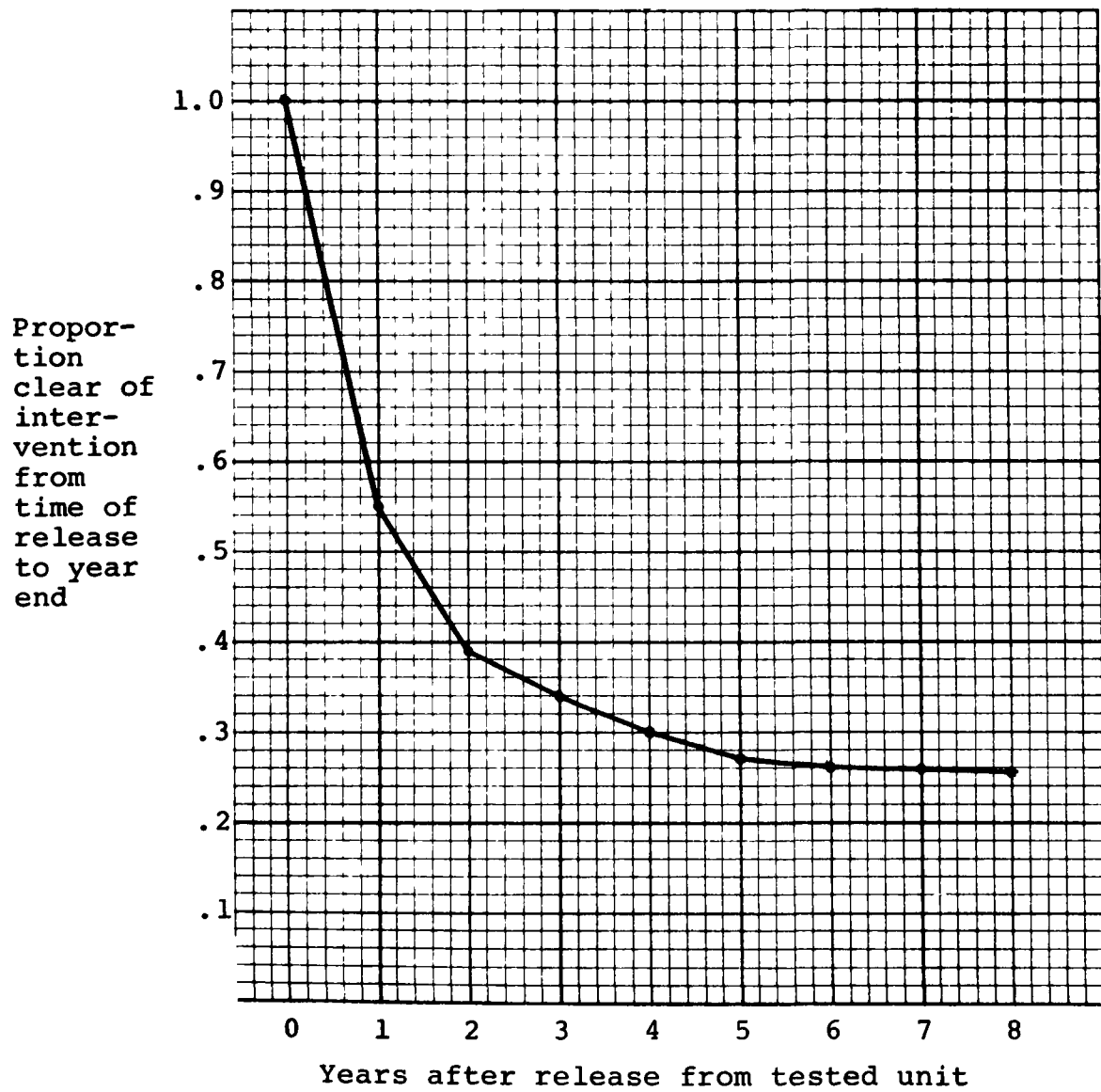


Table 53

Proportion of boys in each unit clear of intervention for full period
of follow-up

Unit	Total Number	Number Clear Of Intervention	% Clear Of Intervention
Bowmanville (South)	27	7	25.9
St. John's (Grade 8)	21	8	38.0
Bowmanville (North)	23	6	26.1
Simcoe (Alexander)	18	4	22.0
St. John's (Grade 7)	27	5	18.5
St. John's (Grades 9 & 10)	19	12	63.2
St. Joseph's (French)	15	4	26.7
Cobourg (Beatty)	17	3	17.6
Bowmanville (Jury)	25	7	28.0
St. Joseph's (English)	17	2	11.8
Simcoe (Athlone)	20	7	35.0
Guelph	26	3	11.5
Simcoe (Connaught)	19	7	36.8
Cobourg (Drake)	19	3	15.8
Bowmanville (Kiwanis)	25	5	20.0
Simcoe (Massey)	21	5	23.8
Cobourg (Ramsay)	18	4	22.0
Bowmanville (Centre)	17	3	17.6
	<hr/>	<hr/>	
	374	95	

Table 54

Proportion of units with no intervention within 2 years after release
from tested unit

Unit	Total Number	Number With No Intervention Within 2 Years	% With No Intervention Within 2 Years
Bowmanville (South)	27	10	37.0
St. John's (Grade 8)	21	12	57.1
Bowmanville (North)	23	7	30.4
Simcoe (Alexander)	18	10	55.6
St. John's (Grade 7)	27	10	37.0
St. John's (Grades 9 & 10)	19	13	68.4
St. Joseph's (French)	15	9	60.0
Cobourg (Beatty)	17	7	41.0
Bowmanville (Jury)	25	10	40.0
St. Joseph's (English)	17	7	41.0
Simcoe (Athlone)	20	8	40.0
Guelph	26	4	15.4
Simcoe (Connaught)	19	10	53.0
Cobourg (Drake)	19	6	31.6
Bowmanville (Kiwanis)	25	8	32.0
Simcoe (Massey)	21	8	38.0
Cobourg (Ramsay)	18	4	22.0
Bowmanville (Centre)	17	4	23.5
	<hr/>	<hr/>	
	374	147	

Table 55

Record of interventions within 2 years free in the community after release from tested unit, according to three categories of Treatment Potential

	Number	Treatment Potential		
		Low	Medium	High
No known intervention for 2 years after release from tested unit	147	75	25	44
Returned to Training School only ("Counselling")	1			1
Returned to Training School only ("A.W.L. from placement" or "Failure to adjust to placement")	10	3	2	5
Returned to Training School only ("Unmanageable")	6	2	2	2
Less serious offence within 2 years, but not within 1 year	39	16	7	16
Less serious offence within 1 year	67	24	13	30
Serious offence within 2 years, but not within 1 year	25	10	7	8
Less serious offence within 1 year; plus serious offence within 2 years	20	7	1	12
Serious offence within 1 year	59	27	5	27
	374	167	62	145

Table 56

Intervention according to year of M.T.P. testing

Unit	N	Time Until Follow- Up (Months)	Year Of M.T.P. Testing	Number Clear Of Inter- vention For 2 Years	% Clear Of Inter- vention For 2 Years	Number Clear Of Inter- vention	% Clear Of Inter- vention
Bowmanville (South)	27	102	1962	10	37.0	7	25.9
Bowmanville (North)	23	102	1962	7	30.4	6	26.1
Bowmanville (Jury)	25	102	1962	10	40.0	7	28.0
Guelph	26	103	1962	4	15.4	3	11.5
Cobourg (Drake)	19	102	1962	6	31.6	3	15.8
Bowmanville (Kiwanis)	25	102	1962	8	32.0	5	20.0
Cobourg (Ramsay)	18	102	1962	4	22.0	4	22.0
Bowmanville (Centre)	17	102	1962	4	23.5	3	17.6
St. John's (Grade 9)	21	79	1964	12	57.1	8	38.0
Simcoe (Alexander)	18	81	1963	10	55.6	4	22.0
St. John's (Grade 7)	27	79	1964	10	37.0	5	18.5
St. John's (Grades 9&10)	19	79	1964	13	68.4	12	63.2
St. Joseph's (French)	15	81	1963	9	60.0	4	26.7
Cobourg (Beatty)	17	81	1963	7	41.0	3	17.6
St. Joseph's (English)	17	81	1963	7	41.0	2	11.8
Simcoe (Athlone)	20	81	1963	8	40.0	7	35.0
Simcoe (Connaught)	19	81	1963	10	53.0	7	36.8
Simcoe (Massey)	21	81	1963	8	38.0	5	23.8

APPENDIX IV

Analysis of Generational Life Table Curves

All calculations given in this appendix are based on the data given in Table 46 and illustrated in Figure 8. The underlying model fitted to the data in Table 46 may be described briefly as follows. Let the considered population be composed of two distinct classes, C those who will recidivate in some time period and \bar{C} those who will never recidivate. Let the proportion falling into \bar{C} be p. For those members belonging to class C, let the probability of recidivating in time period (t_1, t_2) be given by the exponential distribution with (unknown) parameter α ; that is, the probability of recidivating in time (t_1, t_2) is:

$$e^{-\alpha t_1} - e^{-\alpha t_2} .$$

Thus the probability that a member of the population selected at random will recidivate in time interval (t_1, t_2) is:

$$(1-p) (e^{-\alpha t_1} - e^{-\alpha t_2}) .$$

Thus, if the sample is examined at time intervals $t = 0, 1, 2, 3, 4, 5, 6, 7, 8$ as in Table 46, and with corresponding failure counts n_0, n_1, \dots, n_7 , the log-likelihood

may be expressed as:

$$\begin{aligned} & n_0 \left[\ln(1-p) + \ln(1-e^{-\alpha}) \right] + n_1 \left[\ln(1-p) - \alpha + \ln(1-e^{-\alpha}) \right] \\ & + n_2 \left[\ln(1-p) - 2\alpha + \ln(1-e^{-\alpha}) \right] + \dots \\ & + n_7 \left[\ln(1-p) - 7\alpha + \ln(1-e^{-\alpha}) \right] + n_8 \ln \left[p + (1-p)e^{-\alpha 8} \right]. \end{aligned}$$

The maximum likelihood estimates for α and p using the combined data are $\alpha = 0.787$ and $p = 0.250$. The maximum likelihood estimates for α and p from the 1962 data are $\alpha = 0.954$ and $p = 0.205$. The maximum likelihood estimates for α and p from the 1963-64 data are $\alpha = 0.668$ and $p = 0.291$.

In order to test the alternative hypothesis (H_1) that the four parameters α_1 , α_2 , p_1 and p_2 are needed to describe the data, against the null hypothesis (H_0) that only two parameters, α and p are needed to describe the data, the Neyman-Pearson likelihood ratio test was used.

The log-likelihood of the observations under H_1 minus the log-likelihood of the observations under H_0 gives

$$-420.4026 - (-425.6604) = 5.2578 .$$

Twice this value was compared to the tabulated values of Chi-square with degrees of freedom given by the number of extra parameters used under H_1 as against H_0 . The value of 10.52 is significant at the 0.01% level. Therefore the hypothesis H_0 is rejected compared to the alternative H_1 ;

that is, the α parameters and the p parameters are different for the two curves which represent the two "generations".

It is concluded that the two failure curves differ both in rate of decrease and in the proportion of ultimate non-recidivists.