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## DO EXPERIENCE TABLES MATTER?

PETER B. HOFFMAN\* AND HARVEY M. GOLDSTEIN\*\*

### INTRODUCTION

Considerable effort during the last twenty years has been devoted to the attempted formulation of parole prediction devices (also termed base expectancy tables). Despite the acknowledged need for aids in parole selection, these devices have not found widespread acceptance among parole board members. One major goal of the Parole Decision-Making Project<sup>1</sup> is to develop a base expectancy device in cooperation with the parole decision-makers which will be useful as well as reliable and valid. Consequently, an integral part of the project will be to explore the role of recidivism prediction in parole selection, the attitudes of parole board members toward the utilization of an "accurate" base expectancy device, and the format (method of presentation) found most useful by parole board members.

Hayner<sup>2</sup> and Evjen<sup>3</sup> have documented some of the stated reluctances of parole board members toward the use of statistical prediction devices. While part of this reluctance may stem from a firm belief in the uniqueness of each case (or in the moral necessity to treat each case as unique) and in the superiority of clinical prediction (despite available evidence), it is suspected that much reluctance may be attributed to unfamiliarity and suspicion of statistical or numerical methods, or to apprehension that the position of parole board members might be diminished in responsibility.

Fortunately, several factors may be operating to reduce this reluctance. With the coming of the computer age and the exhortation to apply business and cost-effectiveness models to the field of

criminal justice,<sup>4</sup> numerical methods are becoming more a part of everyday life. In addition, several recent studies have devoted attention to the functions of parole board members other than the determination of recidivism. Standard criminology texts, as well as correctional conferences and presentations, have traditionally seemed to oversimplify the role of the parole board member as one of merely attempting to assess the probability of recidivism and deciding whether or not to grant parole. The work of Glaser<sup>5</sup> focuses attention on the decision to parole as one of *when* rather than *whether* to release the inmate. Dawson<sup>6</sup> and O'Leary<sup>7</sup> have demonstrated that the parole decision contains a number of objectives, and that the prediction of recidivism is only one, and often not the most important, factor. As parole board members come to see their role as balancing a number of considerations, they may view statistical aids as assisting rather than hindering with their task.

### THE CONFERENCE

During June 23-25, 1971, a national conference sponsored by the Law Enforcement Assistance Administration in conjunction with the U.S. Board of Parole was conducted to familiarize state parole board members with the progress of the project. Parole board members, correctional administrators, and researchers from 40 states and the federal system attended. After the plenary session, the participants were divided into two strata (those from the federal and those from state systems) and assigned to six groups by random allocation. Each group was then rotated through a number of workshops, including one on base expectancy usage. This paper presents the results of that workshop.

Each of the groups was asked to use the first

<sup>4</sup> *Hearings Before The Subcomm. on Econ. In Gov't Of The Joint Econ. Comm. Of The United States*, 91st Cong., 2nd Sess., 2 (1970).

<sup>5</sup> D. GLASER, *EFFECTIVENESS OF A PRISON AND PAROLE SYSTEM* 288 (1st ed. 1964).

<sup>6</sup> Dawson, *The Decision To Grant or Deny Parole*, 1966 WASH. U.L.Q. 243 (1966).

<sup>7</sup> V. O'Leary, *Parole Frame of Reference Inventory* 1 (mimeo. 1969).

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<sup>2</sup> Hayner, *Why Do Parole Boards Lag In The Use Of Prediction Scores?*, 1 PAC. SOC. REV. 73 (1958).

<sup>3</sup> Evjen, *Current Thinking On Parole Prediction Tables*, 8 CRIME & DELINQUENCY 215 (1962).

forty (40) minutes of the workshop session to make simulated parole board decisions on a series of reformatory case abstracts (see appendix). The remaining 15 minutes were reserved for discussion of the utility of base expectancy devices and possible improvements in the project. Seven case abstracts were presented using a New York State Division of Parole pre-parole report format (including a narrative summary of the present offense, prior record, personal and social history, institutional reports, and parole plan). Four of the groups received four cases with a base expectancy prediction present and two with it omitted; the remaining groups (2) received five cases with the base expectancy scores and one lacking it. Participants were asked to assume that the base expectancy predictions presented were the final results of the project and were extremely *reliable* and *valid*. The following format was used:

Base expectancy score indicates that this inmate has a \_\_\_% chance of completing his first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

This was a primary measure of favorable/unfavorable outcome agreed upon by the parole board, scientific advisory committee, and project staff. Participants were asked to make a decision for each case; to note whether the base expectancy was useful; and to fill in their best estimate of the subject's chances of favorable outcome in the cases where the base expectancy was not presented. The following instructions were given:

In each case, the reformatory sentence has a maximum of six (6) years. Inmates appear for parole consideration after serving one (1) year. The parole board may either *parole* or hold (1-36 months) for reappearance. Since inmates are generally paroled at reappearance unless they have committed serious disciplinary infractions, the length of incarceration is effectively set at the initial parole hearing. If not paroled, mandatory release occurs after serving two-thirds (48 months) of the maximum sentence. Upon release, the inmate will be under parole supervision until the expiration of his maximum sentence. Caseloads in supervision units average approximately fifty parolees per agent.

The session was designed with a two-fold purpose: 1) to elicit participant attitudes towards the hypothesized "accurate" base expectancy device, base expectancy devices in general, and the

format presented; and 2) to examine the effect of the base expectancy score on their decisions. It is important to note that the variable under consideration will be the amount of time to hold before release, rather than a dichotomous parole/do not parole decision. That is, the participant may elect to parole (hold 0 months) or to hold a specified additional amount of time (1-36 months).

The findings will be presented in two sections: a report on the attitudes and responses of the participants, and an empirical examination of the decision simulation.

#### RESPONSES OF PARTICIPANTS

Most participants perceived the base expectancy device as only marginally helpful, helpful only in a limited number of cases, or helpful in confirming decisions rather than in originally making them. Comments ranged from very helpful in certain cases to not at all helpful.

One group suggested that base expectancy presentation would be more helpful if it presented probabilities for a number of outcome criteria over different follow-up periods (e.g., new arrest during first year, new serious felony during first two years). Consensus was expressed regarding the usefulness of a prediction of probable violent acts.

A number of participants felt that the factors used in the base expectancy and the weights given to them should be presented for each case. There was dissatisfaction with the base expectancy described (California 61B) in that it did not take into account institutional progress (academic, vocational, attitudinal change). The feeling was expressed that these were important considerations and must be related to parole outcome (despite the empirical evidence that such items did not add to the base expectancy predictive power).

One item considered as important by a number of participants was an assessment of the quality of the institutional program. As one member noted, "Most of the cases appeared to be merely warehoused; there is nothing exceptional in their institutional behavior to justify either parole or parole denial." The participants' feelings seemed to be that they would censure nonparticipation in a "good" program and would be willing to consider availability of a suitable institutional program in the decision.

The participants indicated that the seven case abstracts were representative of the reformatory cases (16-25 year olds) found in their systems.

Most found the cases to be average or run of the mill. Several felt the cases were less hardened than those they generally saw; one board member indicated that the cases were slightly more violent than he normally experienced.

While board members agreed that they would not consider making a parole decision without a personal interview, general satisfaction was expressed with the case abstracts as presenting a meaningful picture of the offender. Some stated that it was a satisfactory summary for decision-making although they generally receive more information; several indicated that the abstracts were of a better quality than the reports they usually receive. No one expressed dissatisfaction with the decision-task; several commented that they began to perceive the offenders represented as a real person.

#### EMPIRICAL ANALYSIS OF THE DECISION SIMULATION

While all the participants received the same cases,<sup>8</sup> both the presence of the base expectancy and the base expectancy score for each case were varied according to the following design:

(The numbers in the matrix represent the base expectancy for that particular case and group.)

Workshop Group	Case No.					
	1	2	3	4	5	6
1	—	60	—	90	65	70b
2	60	30	60	—	75	80b
3	70	50	—	65	—	40a
4	70	—	40	70	65	50a
5	50	—	70	—	85	30a
6	—	40	50	80	—	60b

The research design attempts to provide equivalent groups (random allocation); however, it is noted that the group Ns are quite small (8, 7, 8, 5, 7, 8) and that participants leaving the conference prior to the final session would have missed the workshop (which was conducted over two days, three groups per day) if their group was scheduled for the second day. Therefore, to enable a test of our assumption regarding the equivalence of

<sup>8</sup> Groups 1, 2, and 4 received case 6a (with several prior offenses); groups 3, 5, and 6 received case 6b (an identical case except for no prior record); one additional case was given in which both base expectancy and prior record were varied; this case was excluded from analysis.

groups, the research methodology included arrangements in which groups viewed identical cases with the same base expectancy (or no base expectancy). For example, groups 2 and 5 can be compared on the basis of their decisions for case #4 (where both lack a base expectancy score); and groups 1 and 4 can be compared for case #5 (where the identical base expectancy score was presented). Analysis of the comparisons between the groups revealed that they did not significantly differ in the amount of time held.<sup>9</sup> Therefore, although the random sample was somewhat reduced by the individuals who did not participate the second day, comparability was still maintained. This similarity in the make-up of the groups allows us to test the following research questions.

#### RESEARCH QUESTIONS

Three research questions were developed. These are as follows:

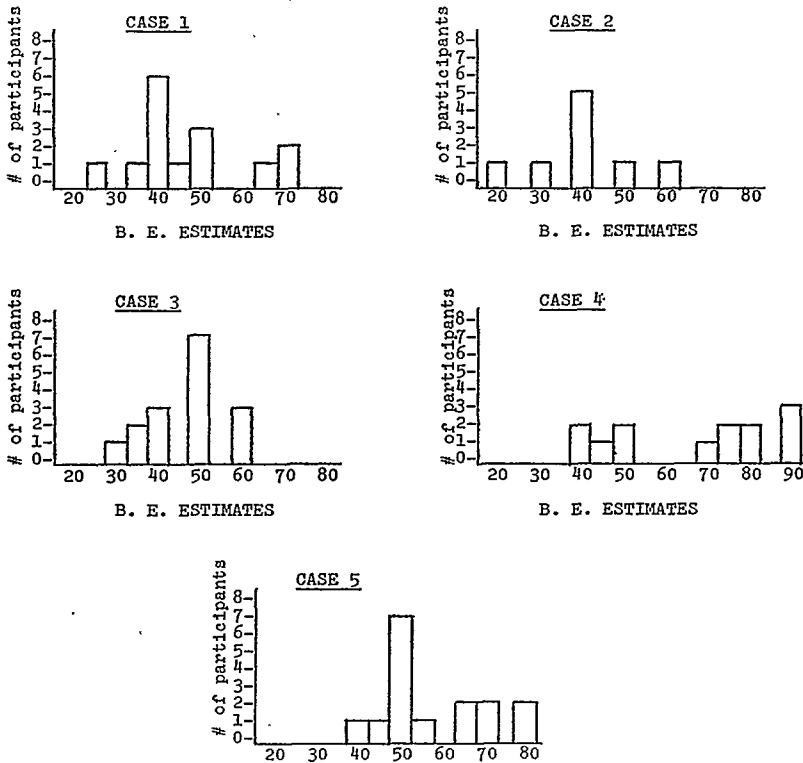
- (1) What is the variation associated with the estimation of parole outcome chances for the cases in which no base expectancy predictions were presented?
- (2) Does the presentation of the base expectancy prediction reduce the variation in the decisions of the group? If so, to what extent?
- (3) Does the amount of time held vary in relation to the base expectancy prediction presented? If a relationship exists, what is its nature and strength?

#### FINDINGS

To investigate research question number one, each group was asked at least once to estimate the base expectancy score for an individual. These scores were tallied and plotted graphically in Figure #1 in order to indicate the amount of dispersion in their choices. Considering the small number of participants in each group (the maximum number of estimates for a graph was 16), it is apparent that considerable disagreement exists among board members in their predictions for each case. The minimum range of estimates was 30 percentage points for case #3, while the maximum range was 50 percentage points in case #4. For these cases and case records, which were judged representative and adequate, the average range of estimates was 41 percentage points.

<sup>9</sup> The statistical test used was the randomization test for two independent groups (the non-parametric analogue to the t test).

FIGURE 1  
PARTICIPANTS' ESTIMATES  
OF BASE EXPECTANCY



In order to consider research question number two, we divided the 36 case-group decisions into two categories: those with a base expectancy score ( $n_1 = 26$ ), and those where the score was estimated by the board member ( $n_2 = 10$ ). The randomization test<sup>10</sup> was computed using the standard deviations of the groups' time-held decisions for each case as a measure of variation. In a case by case comparison, the decisions for the groups with the base expectancy presented did not show significantly greater homogeneity. These results indicate that the amount of variation in time held is not significantly reduced by the presence of a base expectancy prediction.

Another method of comparison is given by Table #1 which displays the range of time held, by group, for each case. There was only one case (group #1, case 1) where the range of time held for a group not presented with a base expectancy exceeded all

of the ranges for those groups with given base expectancy scores. In the remainder of the cases, the groups which estimated the base expectancy had ranges which were no larger (and in case #4, group 2 was in fact smaller) than those of the other groups.

In order to answer research question number three, we constructed Figure #2 which depicts the graphic relationship between the mean time held and the varying base expectancy scores. The relative strength of that relationship is indicated by the correlation coefficient (Pearson's  $r$ ) given beneath the individual graphs.<sup>11</sup>

The large negative correlation in five of the seven cases (1, 3, 4, 5, 6b) indicates an observable relationship between mean time held and pre-

<sup>11</sup> A score of +1.0 signifies perfect agreement (for each positive unit movement on one variable there is a positive unit increase in the other) while a score of -1.0 indicates that as one variable increases the other decreases proportionally. A zero score means there is no direct linear relationship between the two variables.

<sup>10</sup> S. SEGEL, *NONPARAMETRIC STATISTICS FOR THE BEHAVIORAL SCIENCES* 152 (1st ed. 1956).

TABLE 1  
RANGE OF TIME HELD

Case #1		Case #2	
Group	Range (in months)	Group	Range (in months)
#3 (B.E. = 70)	0-12	#1 (B.E. = 60)	0-12
#4 (B.E. = 70)	0-12	#3 (B.E. = 50)	0-12
#2 (B.E. = 60)	0-12	#6 (B.E. = 40)	0-24
#5 (B.E. = 50)	0-12	#2 (B.E. = 30)	0-18
#1 (no B.E.)	0-20	#4 (no B.E.)	0-12
#6 (no B.E.)	0-12	#5 (no B.E.)	0-12
Case #3		Case #4	
Group	Range (in months)	Group	Range (in months)
#5 (B.E. = 70)	0-12	#1 (B.E. = 90)	0-36
#2 (B.E. = 60)	0-12	#6 (B.E. = 80)	0-18
#6 (B.E. = 50)	0-24	#4 (B.E. = 70)	0-24
#4 (B.E. = 40)	0-12	#3 (B.E. = 65)	0-36
#1 (no B.E.)	0-18	#2 (no B.E.)	0-12
#3 (no B.E.)	0-24	#5 (no B.E.)	0-24
Case #5		Case #6	
Group	Range (in months)	Group	Range (in months)
#5 (B.E. = 85)	0-12	#2 (B.E. = 80)	0-0
#2 (B.E. = 75)	0-6	#1 (B.E. = 70)	0-6
#4 (B.E. = 65)	0-20	#6 (B.E. = 60)	0-12
#1 (B.E. = 65)	0-24	#4 (B.E. = 50)	0-18
#3 (no B.E.)	0-12	#3 (B.E. = 40)	0-18
#6 (no B.E.)	0-24	#5 (B.E. = 30)	6-12

sented base expectancy scores in the expected direction. In general, as the probability of success increases the amount of time held decreases. The existence of two cases (2 and 6a) contrary to the rule may be attributed to the greater relative weight given to other factors by one group in each case. Overall, it seems apparent that, given identical case histories, varying the base expectancy score tended to affect the parole-time held decision.

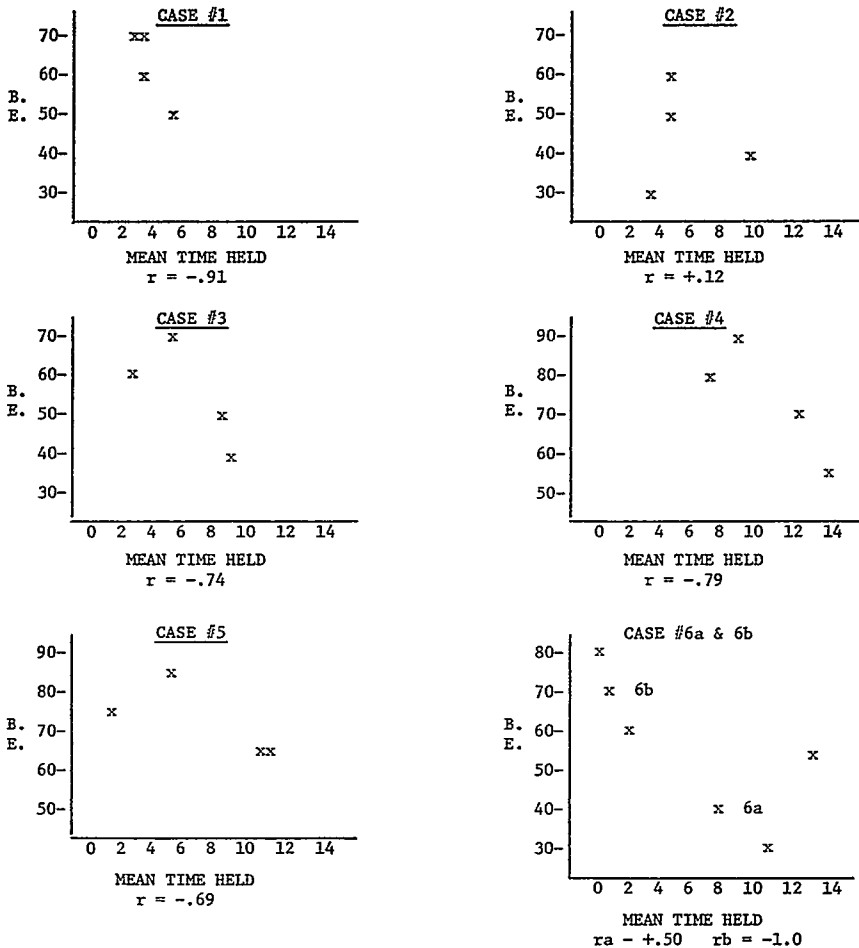
#### DISCUSSION

It is often argued that parole board members are able to estimate accurately an offender's chances for favorable parole outcome without statistical computation of a base expectancy score. Our data indicate that there is substantial range and variation in these estimates, which were based upon cases acknowledged to be representative and case data acknowledged as adequate. It might then be

hypothesized that cases presented with a base expectancy (stipulated as accurate) would produce greater agreement in the decisions than the same cases without a base expectancy. Unfortunately, the presentation of a base expectancy did not appear consistently to reduce the variation in case decisions. This might lead to the conclusion that the board members were merely ignoring the base expectancy. However, it appears that in five of the seven cases, there existed substantial relationships between the base expectancy score presented and the average (mean) time held (with parole counted as 0 time held). That is, while presentation of a base expectancy did not appear to increase the consistency of the decisions among the members about a case, it did appear to affect the group responses as a whole as to when the inmate should be released.

Consider that two board members may view an

FIGURE #2

PARTICIPANT DECISIONS  
(MEAN TIME HELD) V.  
BASE EXPECTANCY

individual and both estimate his chances of favorable outcome at 40%. They may differ as to whether or when to parole him on the basis of other factors. On the other hand, two board members might make estimates of the individual's outcome chances which differed considerably (as our data shows). Differences in their decisions might be either attributed to, or obfuscated by, this difference in prediction. The presentation of a reliable and valid base expectancy either in practical decision-making or in workshop training might be used to focus on other criteria and constraints (institutional behavior, service of sufficient amount of time) which often remain unarticulated.

## LIMITATIONS AND SUMMARY

As this experiment was conducted as part of a larger conference, time restrictions limited the number of cases which could be presented, while the division of the number of participants into several groups rapidly diminished the (N) for each. It may also be noted that attendance at the conference was voluntary and self-selective. Consequently, the empirical data should be interpreted extremely cautiously in that it suggests rather than confirms the various relationships.

The reactions of the participants would seem to indicate that even a reliable and valid base expectancy device or experience table would be considered to be of marginal utility. Empirical data

resulting from the decision exercise, however, indicates otherwise. There was considerable variation in both the participants' own predictions of outcome chances and their decisions for the set of cases. While the presentation of a base expectancy score did not appear to reduce the variation in the decisions within the groups, the presentation of different base expectancy scores for the same cases did appear to shift the average time held before release among the groups. In addition, reactions to the base expectancy presentation served to highlight various other factors considered important by the decision-makers.

#### APPENDIX

##### *Federal Parole Decision Project (Use of Base Expectancy Devices)*

One important phase of the present project is the attempt to develop reliable base expectancy prediction devices. To be effective, a predictive device must not only be reliable and valid, but must provide information in a form useful to the parole board members. This instrument is designed to simulate the interactive nature of a predictive device and parole decision-making. A series of seven case summaries will be presented.

In each case, the reformatory sentence has a maximum of six (6) years. Inmates appear for parole consideration after serving one (1) year. The parole board may either *parole*, or *hold* (1-36 months) for reappearance. Since inmates are generally paroled at reappearance unless they have committed serious disciplinary infractions, the length of incarceration is effectively set at the initial parole hearing. If not paroled, mandatory release occurs after serving two-thirds of the maximum sentence.

Upon release, the inmate will be under parole supervision until the expiration of his maximum sentence. Caseloads in supervision units average approximately 50 paroles per agent.

##### *Response Sheet—Group #3*

###### *Case #1: Robert Johnston*

Base Expectancy score indicates that this inmate belongs to a group with a 70% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance

Comments:

###### *Case #2: James Nuffield*

Base Expectancy score indicates that this inmate belongs to a group with a 50% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance

Comments:

###### *Case #3: William Palmer*

Base Expectancy score indicates that this inmate belongs to a group with a \_\_\_% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance

Comments:

###### *Case #4: Paul Stagaerts, Jr.*

Base Expectancy score indicates that this inmate belongs to a group with a 65% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance

Comments:

###### *Case #5: John Orrick*

Base Expectancy score indicates that this inmate belongs to a group with a \_\_\_% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance

Comments

###### *Case #6: Robert Kole*

Base Expectancy score indicates that this inmate belongs to a group with a 40% chance of completing the first year of parole without revocation or new arrest resulting in a sentence of more than 60 days.

Decision: Parole — Hold (—) months for reappearance



## Comments:

*Case Summary**Case #1: Robert Johnston*

Commitment Offense: Interstate Transportation of Stolen Auto

Sentence Date: 6/2/70  
 Maximum Expiration: 6/1/76  
 Parole Eligibility: 6/2/71  
 Mandatory Release: 6/2/74

Subject is a 22 year old male convicted by plea of guilty of interstate transportation of a stolen auto. The inmate admits his guilt to the instant offense, stating that a friend told him if he drove the car from Mahwah, N.J., to Darien, Conn., he would be paid \$150. The subject verbalizes remorse for the instant offense.

Two prior offenses are recorded. At age 19, the subject was placed on probation for joyriding and discharged 6 months later as unimproved. At age 21, he was arrested for burglary of a gasoline station and sentenced to time served (30 days). The inmate denies commission of the latter offense, stating he pleaded guilty upon promise of a suspended sentence.

Subject is the third child born (9/17/48) to George and Marie (nee Newcomb) Johnston. Reared in an intact family of stable parents in a low income urban area, the subject left school at age 17 (in grade 11) after several years of truancy, academic failure, and poor behavior. Since leaving home at age 18 after a series of verbal and physical quarrels with his father over the subject's behavior, he has lived in a number of furnished rooms, supporting himself from sporadic employment at labor jobs and occasional welfare assistance. He asserts he has one child by a paramour, Cecile Gibson, but denies having seen her in several years or knowledge of her whereabouts. No narcotic or alcoholic history is indicated.

The subject has an uneventful institutional history. No disciplinary infractions are indicated; the inmate is assigned to the print shop as a porter. He has not participated in the formal educational program but has taken a cell study course in art. No physical disabilities are reported; psychological testing indicates an IQ of 98 (dull normal). The subject corresponds infrequently with his mother.

Proposed Parole Program—Upon release, the subject proposes to live in a furnished room and to seek employment as a laborer. He has written

several letters seeking employment but to date has received no responses. The State Employment Office has agreed to assist him in seeking employment. He has \$50.74 in his institution account. Contact with parents indicates they are willing to assist him financially upon release but will not permit him to live at home.

*Case #2: James Nuffield*

Commitment Offense: Burglary

Sentence Date: 6/15/70  
 Maximum Expiration: 6/14/76  
 Parole Eligibility: 6/15/71  
 Mandatory Release: 6/15/74

Subject is a 21 year old male convicted by plea of guilty of burglary of a private dwelling. Subject was apprehended by police who were called by a neighbor as he exited from an apartment carrying a radio, television set, and several pieces of jewelry. Subject admits his guilt, stating that he needed funds to support a habit of narcotic (heroin) addiction estimated at \$15 per day. He asserts he has been using heroin for about 9 months.

Five (5) prior offenses have been recorded since age 16 when the subject was arrested for burglary (dismissed). At age 17 he was placed on probation for petit larceny which was terminated when he received a 60 day jail sentence for another petit larceny (shoplifting). During his 18th year he was arrested for loitering (dismissed). At 19, he was sentenced to 3 months county jail for burglary (similar to the instant offense).

Subject was born in Lewiston, Maine (12/14/49), the only child of Richard and Marion (nee Dupont) Nuffield. His parents were divorced soon after his birth (1950); his father remarried; his mother did not. Subject was raised by his mother and grandmother in Chicago, Ill. His attendance at school was irregular and he had a very poor academic and behavioral record, allegedly associating with undesirables. School records indicate his mother appeared interested but overprotective and unable to control her son's behavior. Subject has had no contact with his father since early childhood. He left school at age 15 and was referred to Children's Court for truancy, but the case was closed when he turned 16 years of age. Subject admits to using narcotics (heroin) for nine months and mainlining for 4 months. He states he occasionally used marijuana and glue previously. He denies alcohol usage. Subject did not enter any rehabilitation program prior to incarceration but states he tried

to kick the habit several times on his own. Subject indicates he has held numerous jobs of short duration (unverified) as stock clerk and gasoline station attendant.

Institutional records indicate no disciplinary infractions; the subject is assigned to the mess hall as a cook's helper. He has participated in the educational program (High School Equivalency) and has to date received satisfactory marks. For recreation he plays cards or basketball. He is in good physical health—psychological reports indi-

cate IQ 110 (average). The subject has participated in the group drug counseling program for the past 5 months attending sessions twice per week. He corresponds regularly with his mother.

Proposed Parole Program—Subject proposes to reside with his mother who will accept him back home; he states he will seek work as a gasoline station attendant and will attend Reality House outpatient drug program. A tentative offer of employment (Apex Gasoline Station) has been received by his mother.