DOCUMENT RESUME

ED 083 278   TM 003 240

AUTHOR   Barton, Marlin; Jenkins, W. O.
TITLE   The Maladaptive Behavior Record (MBR): A Scale for
                the Analysis and Prediction of Community Adjustment
                and Recidivism of Offenders.
INSTITUTION   Rehabilitation Research Foundation, Elmore, Ala.
SPONS AGENCY   Manpower Administration (DOL), Washington, D.C.
REPORT NO   DLMA-82-01-69-06-7
PUB DATE   19 Jan 73
NOTE   35p.
AVAILABLE FROM National Technical Information Service, Springfield,
                Va. 22151 (MF $1.45, HC $3.00)

EDRS PRICE   MF-$0.65 HC-$3.29
DESCRIPTORS   Adults; *Behavior Rating Scales; Correctional
                Rehabilitation; Criminals; Interviews; *Measurement
                Instruments; *Psychometrics; *Recidivism; *Socially
                Deviant Behavior; Statistical Analysis; Tables
                (Data); Technical Reports
IDENTIFIERS   *Maladaptive Behavior Record

ABSTRACT
        This report describes the Maladaptive Behavior Record
(MBR), a behavioral assessment scale developed for use in a
longitudinal follow-up study of released adult offenders. The scale
focused upon the identification and specification of maladaptive
behaviors that are associated with postrelease success or failure,
and is valid for and predictive of criminal behavior and recidivism.
Because the MBR specifies areas of maladaptive behavior for which
intervention is needed, the data derived and validated with this
scale present significant implications for community and
institutional correctional programs which seek to measure and control
the variables that influence criminal behavior. (Author)

ED 083278

TM

THE MALADAPTIVE BEHAVIOR RECORD (MBR):
A SCALE FOR THE ANALYSIS AND PREDICTION OF COMMUNITY
ADJUSTMENT AND RECIDIVISM OF OFFENDERS

TM 008 310

Marlin Barton and W.O. Jenkins

Experimental Manpower Laboratory for Corrections
Rehabilitation Research Foundation
Elmore, Alabama 36025

January, 1973

ERIC
Full Text Provided by ERIC

16. Abstracts

This report describes the Maladaptive Behavior Record (MBR), a behavioral assessment scale developed for use in a longitudinal follow-up study of released adult offenders. The scale focuses upon the identification and specification of maladaptive behaviors that are associated with postrelease success or failure and is valid for and predictive of criminal behavior and recidivism.

Because the MBR specifies areas of maladaptive behavior for which intervention is needed, the data derived and validated with this scale present significant implications for community and institutional correctional programs which seek to measure and control the variables that influence criminal behavior.

Abstract

This report describes the Maladaptive Behavior Record (MBR), a behavioral assessment scale developed for use in a longitudinal follow-up study of released adult offenders. The scale focuses upon the identification and specification of maladaptive behaviors that are associated with postrelease success or failure and is valid for and predictive of criminal behavior and recidivism.

Because the MBR specifies areas of maladaptive behavior for which intervention is needed, the data derived and validated with this scale present significant implications for community and institutional correctional programs which seek to measure and control the variables that influence criminal behavior.

Acknowledgments

Recognition and appreciation are extended to:

Contents

THE MALADAPTIVE BEHAVIOR RECORD (MBR):
A SCALE FOR THE ANALYSIS AND PREDICTION OF COMMUNITY
ADJUSTMENT AND RECIDIVISM OF OFFENDERS

Marlin Barton and W.O. Jenkins

Experimental Manpower Laboratory for Corrections
Rehabilitation Research Foundation
Elmore, Alabama 36025

January, 1973

Although there are a number of approaches to the assessment and prediction of criminal activity and recidivism, few if any instruments have been developed which assess and/or predict effectively. This paper describes an instrument, the Maladaptive Behavior Record (MBR), which focuses on the behavior of the released offender in the community as an index to his adjustment. The MBR has been shown to be both valid for and predictive of criminal behavior and recidivism.

The instrument was developed in connection with a longitudinal follow-up study of released offenders conducted by the Experimental Manpower Laboratory for Corrections (EMLC). This study used a behavioral assessment instrument called the Environmental Deprivation Scale (EDS) which had been developed in 1955 by Pascal and Jenkins and applied to a variety of deviant behaviors. The EDS measures the support or deprivation supplied by the individual's environmental sources to predict deviant behavior which, in the EMLC's follow-up study, was law violation. Only one aspect of the released offender's daily functioning is covered by the EDS, however: the input he receives from his environment. Another instrument was needed to measure the responses he makes to his environment, particularly in terms of maladaptive behaviors, i.e., those behaviors which culminate in law violation and/or recidivism. The MBR was developed to fill this need and for use with the EDS in the EMLC's follow-up study.

The MBR emerged in a checklist format, covering behavioral excesses and/or deficits in the areas of employment, addiction, interpersonal relationships, economics, psychological and physical adjustment, and legal problems (other than arrests). These categories were

empirically derived and judged to be critical to postrelease success. Use of the instrument has led to some refinement of individual items within categories, but the categories remain the same.

Statement of the Problem

The increased availability of federal funding for state and local correctional systems has resulted in an upsurge in the introduction of such programs as pre trial diversion, transitional facilities, work-release, study-release, and home furlough. These developments offer excellent opportunities for treatment in both the institution and the community, but the question arises as to which scientific principles and technologies should be used for program evaluation. As Conrad (1967) has strongly indicated, the technology applied in the evaluation of action programs leads too frequently to inconclusive results.

Various approaches to program evaluation have been suggested which are based on methods of predicting recidivism, all of which have certain limitations. Glaser (1964) describes three basic methods: case-study, actuarial tables, and "configuration" tables. The case study method is likely to vary with the particular interviewer and thereby to predict less systematically on a large scale than actuarial tables, which are free of interviewer bias. The actuarial method, however, is insensitive to certain aspects of individual cases and circumstances and is not as sufficiently predictive as desired. Glaser proposes combining the two approaches and checking them against each other for more accurate prediction and decision-making. He also describes the use of "configuration" tables, a method of prediction based upon the contingency of the expected treatment outcome in terms of success or failure. Sidman (1960), however, has cautioned against the fallacy of the position that all research should derive from the testing of hypotheses inasmuch as valuable data may come from unexpected sources.

The limitations of these methods are largely avoided by employing an approach which stresses intervention-assessment reciprocity. Key to such an approach is the development of comprehensive instruments which not only predict criminal behavior and recidivism, but also measure the released offender's adjustment in the community while specifying the problem areas in which intervention is needed. These instruments, derived independent of an expected treatment outcome, could, if proven valid and reliable, then be applied to the assessment of virtually any treatment program designed to induce behavioral change in offenders.

2

5. Establish reliability of the instrument.

6. Specify maladaptive behaviors of ex-offenders for feed-back to institutions and community training and treatment programs.

Methodology

Methodological Orientation

The MBR was developed in a follow-up study of released offenders and is designed to identify the maladaptive responses of the study Ss to the community environment as reported by the Ss. (Response, in this discussion, is defined as those reactions in which a relationship between the environment and behavior can be established.) While direct behavioral observation of S's behavior in a variety of situations in the natural environment would seem a superior method of collecting data, it is generally unfeasible in actual practice. The alternative used was the behavioral interview wherein a trained examiner (I) systematically obtains behavioral and environmental information from verbal reports by S. The information obtained was structured by the behavioral categories of the MBR and other assessment instruments used in the follow-up study. Non-behavioral accounts by S were used as cues to shape his reporting of specific behavioral and environmental events and interactions.

Specific Method

The initial step in the development of the MBR was the selection of the behaviors which appeared critical to postrelease success. The necessary information was provided in part from the data contributed by adult offenders released from Draper Correctional Center at Elmore, Alabama. A previously developed interview guide, administered to these offenders, indicated a number of classes of behavior that appeared to be associated with recidivism (Jenkins, Barton, DeVine, & Witherspoon, 1972). Similarly, data obtained with the EDS indicated areas of environmental deprivation which, in terms of the total EDS score, were highly predictive of recidivism. It was deduced that if Ss were not supported environmentally, their behaviors were not adequate to generate and/or maintain the natural environmental contingencies that would support adaptive behaviors. The question was: if Ss were not engaging in support generating behaviors, then specifically what behaviors were being emitted by Ss? The MBR is designed to answer this question and its corollary: what are the predictors of criminal behavior and recidivism?

Procedure.

Instrument Development

The 19 questions on the original form of the MBR were derived from three sources: (1) the personal experience of the EMLC staff in corrections and psychology, (2) experience in field interviewing of released offenders, and (3) the basis provided by the EDS in pinpointing areas of environmental deprivation. While data and experience gained in the use of this initial form of the MBR indicated that broad areas of inquiry should be maintained, some questions were expanded in scope to cover behavioral incidents in a broader context, others reduced to a more limited context, and still others eliminated, reducing the total number of items to 16 in the revised form of the MBR (see appendix). These items are categorized in the areas of employment, addiction, interpersonal relationships, economics, physical and psychological adjustment, and legal problems (other than arrests).

Each item is followed by a description which provides a brief guide to the specific information to be obtained in the interview. The rating procedure is forced choice. If S has a problem of maladaptive behavior, E enters a "1" by the corresponding item. If there is no problem of maladaptive behavior, a "0" is entered by the corresponding item. In either case, E enters under each item the specific behavioral events and the related environmental conditions serving as the basis for the rating. Within a possible range of 0 to 16, the total score is the predictor to be related to the occurrence of criminal behavior or recidivism.

Interviewers were trained in the behavioral research interview following the procedures of Pascal and Jenkins (1961) in addition to their training in the use of the MBR. The manual for the use of the MBR is essential for its effective application (Barton, Witherspoon, & Jenkins, 1973).

Subjects

The total N used in the development of the MBR was 216 male felony offenders released from Draper Correctional Center, Elmore, Alabama. Their demographic characteristics were:

Age range: 19 to 37 years

Mean age: 23.5 years

Married 18%, divorced or separated 20%; were never married 62%

Mean I.Q. 85

First time committed to an adult prison: 50%

Mean educational level: reported, 9 years; tested, 7 years

Offenses: 66% against property, 34% against persons

Racial composition: 45% black; 55% white

Subject selection was determined by the experimental design of the follow up study which was evaluating the effects of manpower training projects and an EMLC token economy project. The selection procedures for these various treatment groups and a non-treatment comparison group will be included in a comprehensive EMLC report. For the purposes of this paper, however, it is important to note that these *Ss*, interviewed with either the original or revised form of the MBR, are representative of the Draper population. For the most part, interviews were conducted in the more densely populated areas of Alabama where the greater distribution of *Ss* was located, but also included some *Ss* located in small towns and rural areas.

Interview Procedures

The interviews were conducted as part of the EMLC's follow-up study, using a battery of instruments which included the MBR. *Ss* living in the Montgomery area were interviewed at the EMLC's downtown office; those living outside this area were interviewed at residences, places of employment, and at other pre-arranged locations (e.g., restaurants). The interviews were administered face-to-face and required 45-90 minutes for the full battery of instruments. Because several of the items overlap between instruments, the MBR required about 30 minutes instead of the 30-60 minutes necessary if used alone.

Since all data contributions were voluntary, careful attention was given to gaining and maintaining rapport and to orienting *Ss* to the objectives of the research interview. Consistent with the objectives, interviewers maintained "unobtrusive rapport" with *Ss*, avoiding engaging in systematic intervention or counseling. Upon completion of the full battery of instruments, *Ss* were paid $5 in cash for data contributed. Those *Ss* who were interviewed at the Montgomery office were interviewed more frequently and with a shorter battery of instruments, receiving $2 in cash for each interview.[1]

---

[1] No significant variations in data were noted as a function of these differences in payment for interviews.

Interview data regarding the absence or presence and nature of law violations reported by Ss were validated against the records of law enforcement and correctional agencies. Recidivists who were not interviewed within one week prior to recidivating were interviewed as soon as possible after their arrest, in most cases after reincarceration. These interviews dealt with the behavioral and environmental events immediately prior to the time of arrest.

RESULTS

The data presented in this section were obtained over a three-year period as part of the EMLC's longitudinal follow-up study of the released offender. The follow-up study is divided into two parts, the 1969 and 1971 studies, to accomodate changes in the research design. Thus the total *N* for whom data were available for certain aspects of the analysis may vary, depending upon the study from which these data were taken. Because the 1971 follow-up study is presently continuing, this portion of the data cannot be considered final. Changes can occur in only one direction, however, from "no law violations" to "some law violations."

This section contains, in addition to basic data, other psychometric matters which include cluster and item validities and intercorrelations, changes in score over time, and test retest reliability. Because the EDS and MBR were used together to measure different aspects of the released offender's free-world functioning and because both are predictive of recidivism, the relationship between their predictive performance is also examined. It must be noted that while the overall format of the MBR is finalized, the instrument is still under experimental test and subject to revision.

The MBR results are presented against a three-part criterion of law violation: none, minor, and major. Minor law violations are defined as those misdemeanor offenses resulting in fines, suspended sentences, and probation or jail sentences of 365 days or less. Major law violations are defined as offenses or criminal activity resulting in imprisonment (i.e., a new felony offense or parole violation or both).

Distribution Data for the MBR

A total of 216 prison releasees have been interviewed with two forms of the MBR (the present 16-item form and the earlier 19-item version). The data were standardized for the two forms using the norm of the 16-item scale (1971 form), and the distribution results for all 216 cases are summarized in Table 1.

It is immediately apparent from this representation that the distribution is quite skewed and approaches a Poisson or J-function rather than the normal curve. This finding is consistent with most outcomes in the measurement of human behavior and excludes or at least suggests limited use of classical statistical analysis. The shortcut analytical techniques,

reported by Jenkins and Hatcher (1973) avoid the assumptions of traditional procedures and are appropriate for data derived from the MBR.

TABLE 1

A Summary of Distribution Data for the MBR
(Combined 1969 and 1971 Follow-up Studies)
(N = 216)

MBR Score	Frequency	Percentage
12-13	2	1.0
10-11	9	4.2
8-9	14	6.5
6-7	29	13.4
4-5	36	16.6
2-3	66	30.6
0-1	60	27.7
Total	216	100.0
Mean	3.63	
Median	3.40	
Range	0-13	
S. D.	2.9	

Validity: The Relationship of MBR Score to Law Violation

Tables 2, 3, and 4 contain the basic distribution and analytical statistics for the available outcomes with the MBR. The criterion is the functionally operational one, previously described, of three points on the law violation continuum: none, minor, and major. (The latter corresponds to the more usual definition of "recidivism.") Table 2 contains the overall data, reported in percentage terms, with a three-way breakdown along both the MBR score and law violation dimensions. Table 3 presents the distribution data for the 1969 version of the instrument; Table 4 contains the same information for the 1971 form of the MBR.

The trends in Table 2 are quite clear. A majority of the non-law violators score low on the MBR while about 90% of the law violators score in the middle or upper ranges. It is apparent that the data for the non-law violators separates widely and significantly from those of the law violators. Chi Square for the frequency data comes close to 50 in Table 2.

TABLE 2

Overall Data on the Relationship Between Law Violation
and Score on the MBR (1969-71)

(N = 191)

| MBR Score | Law Violations | | | |
	None N = 104	Minor N = 48	Major N = 39	Minor and Major N = 87
High	10%	29%	36%	32%
Middle	37%	65%	49%	58%
Low	53%	6%	15%	10%
Percent of total sample	55.5%	25.1%	20.4%	45.5%

Table 3, representing the frequency distribution data for the 1969 MBR against the three-point criterion, again shows a clear separation of MBR scores for law violators as contrasted with non-law violators. The minor and major law violation groups both exhibit much higher frequency of high MBR scores than the non-law violators. In the bottom half of this table, the data have been collapsed into two-by-two form and the Q-coefficient applied (Jenkins & Hatcher, 1973). In both analyses a high and significant amount of covariation is indicated between MBR score and degree of law violation.

TABLE 3

Distribution and Analytical Statistics for the Original Form of the MBR (1969)

(N = 128)

| MBR Score | Degree of Law Violation | | | |
	None N = 63	Minor N = 34	Major N = 31	Minor and Major N = 65
9	0	1	0	1
8	0	1	1	2
7	2	0	0	0
6	0	3	5	8
5	2	2	4	6
4	5	...	5	14
3	14	11	1	12
2	12	6	10	16
1	18	1	5	6
0	10	0	0	0
Mean	2.0	3.7	3.4	3.8
Median	1.9	3.8	3.0	3.9
Range	0-7	1-9	1-8	1-9

All MBR Scores	No Violations	Minor and Major Law Violations	
High (3-9)	23 (36%)	43 (66%)	Q = .645
Low (0-2)	40 (64%)	22 (34%)	p = .001

Extreme MBR Scores			
High (4-9)	9 (24%)	31 (84%)	Q = .88
Low (0-1)	28 (76%)	5 (16%)	p = .001

15

The 1971 version of the MBR stressed item refinement, and the increased spread of scores shown in the data of Table 4 is presumably related to this refinement. Both law violation groups separate from the non-law violators and, in addition, the major law violators tend to score higher than the minor violators. Averages differ by a factor of two between non- and major violators. The lower half of Table 4 contains the two-fold analyses and the Q-coefficients. Again, a high and significant degree of covariation is exhibited. It should be noted that the Q-coefficients in Table 4 are of the same order of magnitude as those in Table 3.

TABLE 4

Distribution and Analytical Statistics for the Revised MBR (1971)

(N = 88)

MBR Score	Degree of Law Violation			
	None N = 59	Minor N = 18	Major N = 11	Minor and Major N = 29
13	0	0	1	1
12	0	0	1	1
11	0	2	2	4
10	0	3	1	4
9	3	0	0	0
8	5	4	0	4
7	4	0	2	2
6	7	0	0	0
5	4	0	0	0
4	0	3	1	4
3	8	1	1	2
2	13	1	1	2
1	10	4	1	5
0	5	0	0	0
Mean	3.6	5.8	7.4	6.4
Median	3.25	6.0	7.5	7.5
Range	0-9	1-11	1-13	1-13

All MBR Scores	No Violations	Minor and Major Law Violations	
High (4-13)	23 (39%)	20 (69%)	Q = .66
Low (0-3)	36 (61%)	9 (31%)	p = < .001

Extreme MBR Scores			
High (9-13)	3 (5%)	10 (34%)	Q = .86
Low (0-3)	36 (61%)	9 (31%)	p = < .001

Overall, the outcomes indicate a high degree of predictive efficiency and validity for the MBR against the criterion of law violation. Putting the data of Tables 3 and 4 together to obtain some actuarial probabilities yields the following outcome. Individuals with high MBR scores have odds of 5.5 to 1 of commiting law violations. For middle-range MBR scores the corresponding figures are 2.5 and 1. For the lowest MBR scores the odds are about 5 to 1 against commiting a law violation. With continued instrument refinement yielding increased sensitivity and predictive efficiency, it seems likely that these odds will increase.

Validity: The Relationship of Item Cluster and Items to Law Violation

The MBR contains five individual items reflecting reactions to the work situation, three dealing with addictive matters, and three focusing on interpersonal responses. The remaining five items cover physical and psychological adjustment, money management, and legal matters. The data for the three primary clusters along with those for the remaining items were analyzed in relation to the occurrence of law violations and summarized in Table 5 for 88 prison releasees in the 1971 follow-up study. It should be noted here that this follow-up study is continuing and that the outcomes will change over time. Changes occur in only one direction: men can only go from none to some law violations.

The results contained in Table 5 show clear trends. The most predictively efficient cluster is that concerned with addiction. It yields a difference on the mean of more than four to one and a Q-coefficient of .78. This group of items is followed closely by those focusing on employment reactions. Responses to interpersonal matters and to "other" also yield significant and appreciable covariation with the criterion.

TABLE 5

MBR Item Cluster Validities Against the Criterion of Law Violation
for 88 Prison Releasees (1971)

Cluster	Non Law Violators N - 59			Law Violators N - 29			Q Coefficient
	Mean	Range	%High	Mean	Range	%High	
Employment	1.7	0-5	25	2.6	0-5	66	67
Addiction	0.2	0-2	17	0.9	0-3	62	.78
Interpersonal	0.4	0-2	37	0.9	0-3	66	62
Other	1.3	0-3	34	2.0	0-4	82	62
Total	3.6	0-5	34	6.4	1-12	82	80

It may he noteworthy that addictive and employment clusters yield higher validity coefficients than total MBR score. (It should he commented that for extreme, outlying scores, the total is most discriminating.) Whether this tentative outcome is a temporary sampling phenomenon hanging on the maturity level of the outcomes or whether it will hold up over time awaits further data collection.

Table 6, which presents item validities, requires a few words of explanation. The data were originally sorted into two groups, law violators and non-law violators. Then counts were made separately of the frequency with which "0" was reported for each item. The first two columns of Table 6 present this information in percentage terms. The third column presents O-coefficients for each item representing validities. The fourth column adds the individual item correlations (Q-coefficients) with total MBR score.

TABLE 6

MBR Item Validities Against Occurrence of Law Violations
and with Total Score in a Sample of 88 Prison Releasees (1971)

Significance Levels are:
10%, .14; 5%, .17; 1%, .24; 1%, .33

MBR Item	Percent "0"		Item Validities	Item Correlations with Total Score
	Non-Law Violators N = 59	Law Violators N = 29		
1. Behavioral Response to Income	68	48	.38	80
2. Behavioral Response to Working Conditions	49	44	.07	31
3. Interaction with Co-workers	83	55	.45	.94
4. Interaction with Employer	73	59	.31	97
5. Work Attendance	64	38	.50	.90
6. Alcohol Use	93	48	.83	.93
7. Drug Use	90	72	.54	.90
8. Gambling	96	83	.71	.78
9. Fighting	93	83	.48	.80
10. Verbal Abusiveness	96	93	.36	.53
11. Maladaptive Associations	69	38	58	.85
12. Money Management	69	28	.71	.68
13. Responses to Physical Condition	62	65	.08	.49
14. Psychological Adjustment	91	86	.27	-.10
15. Behavioral Responses to Legal Processes	88	79	32	87
16. Other Behavioral Problems	53	28	3	29

All things considered, the most valid item against the external criterion of law violations is No. 6, alcohol use, followed by No. 12, money management, and No. 8, gambling. Only two items (2 and 13) fail to yield coefficients significant at the 5% level. Thus all but 2 of the 16 items produce an acceptable level of significant positive covariation with the criterion. Item refinement continues.

The pattern of item correlation with total score is quite clear-cut. The first five items dealing with employment correlate very highly with the internal criterion of total score followed closely by the three addictive items (6, 7, and 8). The correlations for interpersonal items (9, 10, and 11) and "other" items (12-16) are intermingled at a somewhat lower level. All but one item yield substantial, highly significant, positive correlations. Overall, the picture is psychometrically satisfactory.

It may be of interest to note that the two sets of correlations contained in Table 6 are relatively unrelated. The Rank Order Correlation between them is only .186. The overall basic point emerging from Tables 5 and 6 is, of course, the predominantly high item and cluster validities with the outside criterion of law violations.

Cluster and Item Intercorrelations

Tables 7 and 8 summarize the cluster and item intercorrelations, as computed by the Q-coefficient in the sample of 88 releasees in the EMLC's 1971 follow-up study. From Table 7 it can be seen that items in the employment area seem to be measuring behavior in a somewhat different area from those areas covered by addictive and interpersonal items. The latter two clusters are quite highly related, as shown by the correlation of .80. Further analysis will be performed as additional data become available.

TABLE 7

Intercorrelations of Clusters on the MBR
in a Sample of 88 Releasees (1971)

Cluster	1	2	3	4
Employment	—	.51	.47	.73
Addiction		—	.80	.62
Interpersonal			—	.87
Other				

The 120 item intercorrelations are presented in Table 8. Only 3 are negative and these are small in magnitude. The intercorrelations range from -.17 to .99 with a median of about .43. Some 85% of the values are significant at the 5% level and two-thirds of them are less than .55. Careful scrutiny of the table reveals a grouping of very high values in the upper left hand corner, where the items dealing with employment are located. The 10 correlations range from .69 to .99 with a median near .95. This is the only instance of such a grouping; items in the other clusters intercorrelate positively but only to a moderate extent. The medians for the other three clusters are: addiction .59, interpersonal .42, and "other" .22.

TABLE 8

MBR Item Intercorrelations in a Sample of 88 Releasees (1971)

MBR Item	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.75	.99	.96	.90	.29	.56	.09	.35	.24	.30	.53	.17	.13	.80	.34
2		.92	.93	.69	.73	.75	.72	.46	-.05	.54	.41	.41	-.17	.40	.47
3			.99	.98	.23	.59	.28	.35	.40	.60	.32	.24	.07	.65	.33
4				.98	.33	.68	.52	.32	.38	.62	.26	.40	.29	.62	.47
5					.52	.72	.27	.42	.60	.60	.63	.44	.25	.39	.44
6						.59	.73	.73	.14	.84	.88	.07	.06	.09	.74
7							.39	.38	.29	.76	.69	.02	.22	.02	.62
8								.08	.47	.34	.83	.19	.23	.02	.13
9									.42	.65	.23	.23	.07	.62	.28
10										.19	.60	.27	.52	.15	.50
11											.77	.19	.18	.46	.76
12												.18	.25	.04	.71
13													.41	.05	.26
14														.29	.10
15															-.12

Overall, it seems clear that the items and clusters of the MBR are contributing largely and significantly to prediction of law violation. Their interrelationships are such that the *status quo* should be maintained except for item refinement for communication purposes.

As a final word, the reader is reminded that the MBR is not intended as a precise psychometric instrument, but rather as a format and guideline to uncovering classes of behavior that lead to law encounters and that serve as criteria for specifying areas for intervention treatment.

External and Internal Reliability

The primary question with any measuring device -behavioral or otherwise -concerns its validity, the extent to which it relates to a more ultimate criterion. Validity is limited by the measuring consistency of an instrument. Reliability or consistency of measurement is, however, a secondary matter. An intervention procedure may change the behavior of all Ss on a large scale and thereby exhibit high validity, but in so doing it may change the $S's$ relative position from pre to post measurement in such a variable fashion that reliability may be zero or even negative.

There are three basic ways of determining the reliability of devices such as the MBR. One is to have independent observers record their measurements across a number of Ss and compute the correlation across observers ("rater-rater reliability"). The second is to obtain repeated measurements of the same Ss by the same observers and calculate consistency from occasion to occasion ("test-retest reliability"). The third consists of internally intercorrelating sub-portions of the measuring device with the same Ss. A common procedure in the latter method is to correlate odd-numbered items with even-numbered ones, known as "split-half reliability." In a limited sense, the cluster intercorrelations of Table 7 constitute a crude measure of this form of internal reliability.

Initial outcomes on rater-rater reliability suggest a high level of consistency. These studies are being conducted with two interviewers present, both maintaining behavioral rapport with S while scoring the MBR and other follow-up instruments independently. In addition, tape recordings offer a basis for checking scoring agreement in selected cases. The latter procedure has yielded very high agreement when used with procedures similar to the MBR, namely, the EDS (Jenkins, 1972).

In a sub-study of the 1971 follow-up study, 48 releasees were interviewed two or more times approximately a month apart. Average MBR scores for the odd-numbered months were correlated with those for the even numbered months in a two by two layout employing the O-coefficient. The resulting data are summarized in the upper portion of Table 9. Here it may be seen that nearly 80% (37/48) maintained their positions of high or low relative to the average from odd to even months. The O-coefficient is .87, indicating a high degree of consistency or reliability on a test-retest basis. The repeated measurements data going into this analysis will be considered in detail in the next section.

Individual item data on the MBR were available on a sample of 89 releasees in the 1971 follow-up study. To calculate internal reliability by the split-half method, total scores on odd-numbered items were correlated with those on even-numbered ones. The outcome is shown in the lower portion of Table 9 with approximately 80% of the cases (71/89) scoring consistently across the odd-even dichotomy. The Q-coefficient for the results is .88, again indicating a high degree of internal consistency.

TABLE 9

Test–Retest and Split–Half Reliability of the MBR (1971)

Total Score Test–Retest

N = 40

Even Months	Odd Months		
	Hi	Lo	
Hi	17	8	
			Q = .87
Lo	3	20	

Split Half Odd vs. Even Items

N = 89

Even Items	Odd Items		
	Hi	Lo	
Hi	36	9	
			Q = .88
Lo	9	35	

Across the board the MBR far exceeds the usual psychometric standards for reliability on both an internal and external basis.

Repeated MBR Measurements Over Time

In the 1971 follow-up sample of 88 cases there were 22 non-law violators and 22 law violators (both minor and major) for whom three or more MBR interview records were available. These men had been seen about once a month. Because of differing release dates, recidivism, jail terms, abscondence and the like, six interviews constituted the median value, although all the available data were used. The average outcomes for the non law violation and law violation groups are shown in Table 10 and Figure 1.

TABLE 10

Changes in MBR Scores Over Time for a Sample
of 59 Non-Law Violator and 29 Law Violator Releasees (1971)

Base N · 22 for each group.

Months	Non-Law Violators		Law Violators	
	N	Mean	N	Mean
1-2	15	1.9	15	2.5
3-4	12	2.4	16	4.3
5-6	13	2.6	12	5.5
7-8	9	4.6	9	5.6
9-12	9	4.1	9	8.8

In these representations it can be seen that both groups show an upward trend over time, but a differential slope is clearly apparent with the law violators increasing their scores over the 12 months by a factor of more than 3.5 while the non-law violators only doubled their MBR scores. Differences between the two groups in the last six months are highly significant, with very little overlap in scores. While local variations in the curves are probably attributable to chance, the overall trends are expected to hold up with the addition of more data in the near future.

The increase in MBR score for the non-law violator group indicates that some of the men are exhibiting maladaptive behaviors that presumably antedate and predict law violations and that they will ultimately move to the law violation group.

The high consistency of these repeated measurements data has already been indicated in the previous section where a test-retest coefficient of .87 was reported.

The need for the MBR and similar instruments to provide a basis for intervention is quite clear in Table 10 and Figure 1. Intervention early in the game for the law violators in the behavioral areas specified by the MBR can provide a trend reversal and a corresponding reduction in law violating behavior and its more intense counterpart, recidivism.

*The Relationship Between Maladaptive Behavior and Environmental
Deprivation. The MBR and the EDS.*

Environmental input and response outcome may be considered two primary dimensions of human activity. It has repeatedly been shown that environmental support is a
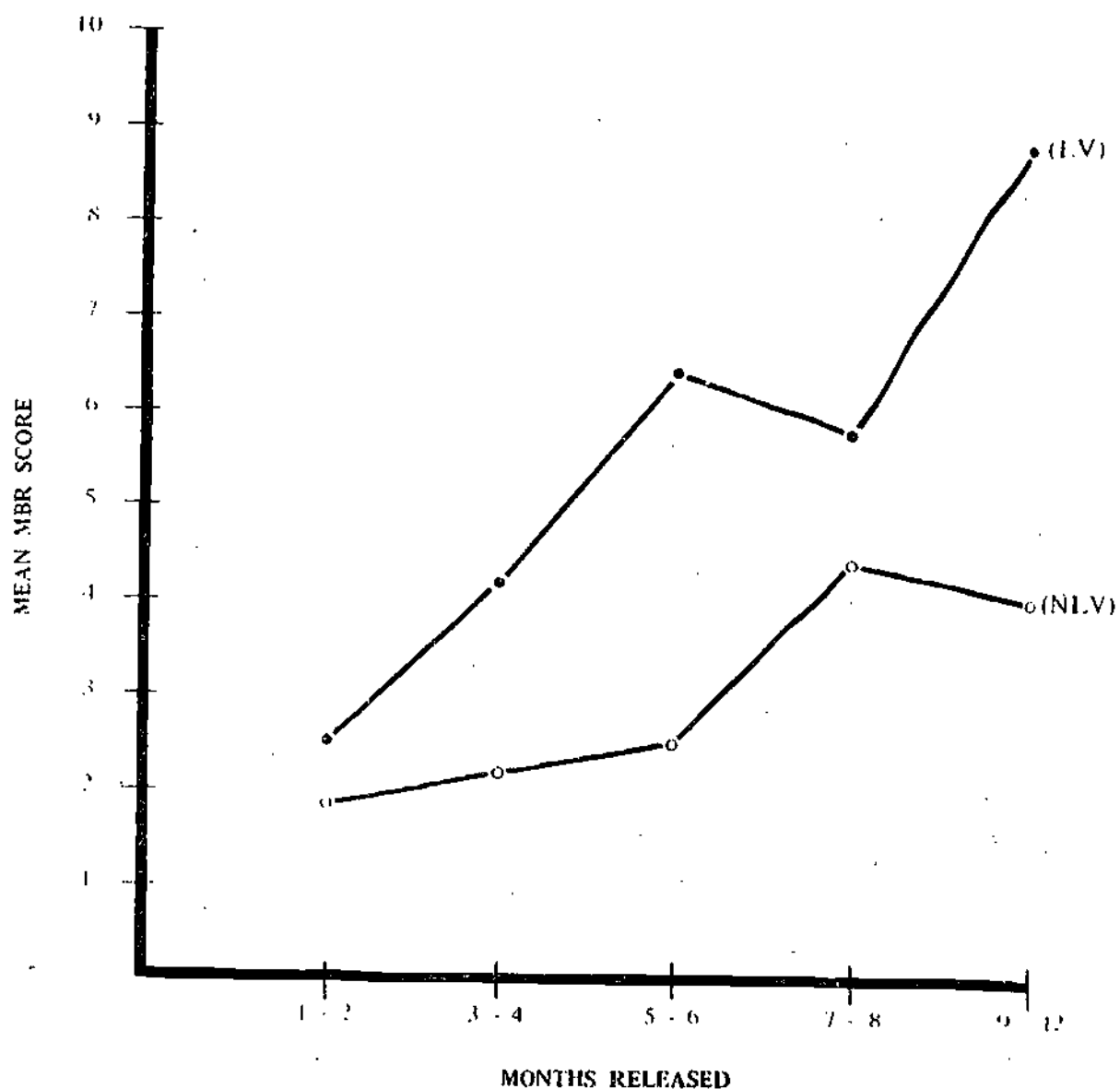
Fig. 1. Changes in MBR scores over time for law violators (LV) and non law violators (NLV).

critical dimension in the development and maintenance of such deviant behaviors as peptic ulcer, alcoholism, and "schizophrenia" (Pascal & Jenkins, 1961; Jenkins, 1972). More recently a striking relationship has been demonstrated between the EDS and the occurrence of law-violating and criminal behavior (Jenkins, 1972). To examine the relationship between maladaptive behavior and environmental deprivation, as measured by the MBR and EDS, scores on the two instruments should be compared.

A very high correlation between the two indices would suggest such behavioral communality that the case could be made for doing away with one instrument. On the other hand, a near-zero correlation between the two measures would constitute a psychological and behavioral puzzle since it would run counter to available evidence. Between these two extremes is the possibility of a moderate, positive covaration between the MBR and EDS.

This latter hypothesis is definitively supported by the data contained in Table 11. Both the MBR and EDS were divided at the usual cutting points and Ss were tallied as high or low on the two indices simultaneously. In all, 65% of the cases score high and low on both measures. The resulting Q-coefficient is .55, indicating a moderate degree of association and covariation between the EDS and MBR. A correlation of this magnitude accounts for only 30% of the common variance, leaving over two-thirds unaccounted for. In behavioral terms, this point adds up to the tapping of somewhat different areas by the two devices. Both measures correlate highly with the criterion of law violation, but in so doing are measuring somewhat different aspects of the problem with only a moderate degree of communality.

TABLE 11

The Relationship Between MBR and EDS Scores in a Sample of 108 Releasees

MBR SCORE	EDS SCORE		TOTAL
	High (9-14)	Low (3-8)	
High (3-9)	36 (33%)	21 (19%)	57
Low (0-2)	17 (16%)	34 (32%)	51
Total	53	65	108

Q Coefficient - .55

Summary of MBR Outcomes

In brief, the MBR has been shown to be a highly predictive device for law-violating and criminal behavior, both in terms of overall score and the individual items. The instrument exceeds psychometric standards with regard to consistency, reliability, interrelationships, and other statistical matters. Additionally, it provides a broad-range foundation for behavioral intervention by specifying the areas in which intervention is needed.

DISCUSSION

Many maladaptive behaviors covered by the items of the MBR clearly correlate with and are predictive of law-violating behavior and recidivism. The instrument exceeds the usual psychometric standards with regard to item and cluster validity, intercorrelations, and reliability. These analyses are continuing as additional data become available, especially with regard to validation of the instrument against the criterion of criminal behavior and law violation.

The data for the MBR are collected through a behavioral interview and are thus restricted by the quality of the interview itself. The MBR score is valid insofar as the interview focuses on and obtains behavioral incidents and episodes. The verbal report, "I get along fine with everyone," bears an orthogonal if not negative relationship to the behavioral facts of engaging in a barroom brawl every Saturday night, illustrating the difference between the expression of attitudes and opinions on the one hand and behavioral incidents on the other. Given the behavioral orientation and instructions presented in the manual for the use of the MBR (Barton et al., 1973), however, it is difficult not to obtain basic data in the area of maladaptive behavior.

The MBR may be considered a companion piece to the EDS. The latter measures environmental input; the former, behavioral output. Between them they account for most of a person's current functioning. The generality of application of the EDS has been demonstrated in a variety of areas. The MBR, however, has been employed only with ex-offenders. Data supporting the generality of the MBR have been obtained by using the instrument with a group of professionals and paraprofessionals in the fields of psychology and corrections. It is a plausible inference that the MBR has a high degree of generality.

It seems highly probable that individuals exhibiting varying degrees of a particular deviant behavior would separate in MBR score. Skidrow alcoholics should diverge from middle-class alcoholics and these in turn should separate from the occasional spree drinker. The MBR scores of these groups should be different from those for non-drinkers. Such an outcome has been demonstrated with the environmental side of the picture via the EDS (Pascal & Jenkins, 1961). The MBR should have high validity for all forms of deviant behavior, although this is an experimental question.

The assessment of current maladaptive behavior must be viewed in a total context. There are many dimensions to criminal and law-violating behavior, of which the MBR

measures one. The dimension of environmental input to current behavior is assessed by the EDS. A large mass of systematic data has been presented elsewhere (Pascal & Jenkins, 1961) which indicates a high predictive relationship between early life experience and developmental behavioral history and adult deviant behavior patterns. The historical foundations of adult criminal behavior also need systematic investigation, including behavior patterns which are learned and unlearned in the institutional setting. Finally, mention should be made of other reaction dimensions, an example of which is the durational property of behavior. An instrument called the Weekly Activity Record (WAR) has been developed by the EMLC to measure the partitioning of time among the varieties of everyday behavior, such as sleeping, working, eating, sex, reading, etc. The WAR is currently being validated against the criterion of law-violating behavior.

Identification of maladaptive behaviors predictive of law violation and recidivism is only the first step in dealing with criminal behavior. The next step is behavioral change, the elimination of these maladaptive behaviors and the prevention of criminal activity. The MBR provides a basis for intervention and treatment by specifying the areas in which intervention is needed for each individual. The MBR, used with the EDS and other basic information, serves as the foundation for systematic behavioral diagnosis and prescription that, in turn, lead directly into treatment procedures with favorable odds for changing and reducing criminal behavior.

REFERENCES

Barton, M.C., Witherspoon, A.D., & Jenkins, W.O. *Behavioral assessment and prediction: A manual for the use of the Maladaptive Behavior Record (MBR) in corrections.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1973, in press.

Conrad, J.P. *Crime and its correction.* Berkeley: University of California Press, 1967.

Glaser, D. *The effectiveness of a prison and parole system.* Indianapolis: Bobbs-Merrill, 1964.

Jenkins, W.O. *Prolegomena to the measurement and assessment of human behavior.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1971.

Jenkins, W.O. *The functional analysis of criminal behavior: A synopsis.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1972.

Jenkins, W.O., Barton, M.C., DeVine, M., & Witherspoon, A.D. *A long-range evaluation follow-up study of ex-offenders.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1973, in press.

Jenkins, W.O., & Hatcher, N.C. *The design of behavioral experiments.* New York: McGraw-Hill, 1973, in press.

Jenkins, W.O., & Sanford, W.L. *A manual for the use of the environmental deprivation scale (EDS) in corrections: The Prediction of Criminal Behavior.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1972.

McKee, J.M. *New directions in corrections.* Rehabilitation Research Foundation, Contract No. 82-01-69-06, Manpower Administration, U.S. Department of Labor, 1971.

Pascal, G.R., & Jenkins, W.O. *Systematic observation of gross human behavior.* New York: Grune & Stratton, 1961.

Pascal, G.R., & Thoroughman, J.C., & Jenkins, W.O. *The interview guide and manual for the deprivation scale.* Atlanta: Department of Surgery, Veterans Administration Hospital, 1965.

The President's Commission on Law Enforcement and Administration of Justice. *The challenge of crime in a free society: Task force report: Corrections.* Washington, D.C.: U.S. Government Printing Office, 1967.

Sidman, M. *Tactics of scientific research.* New York: Basic Books, 1960.

APPENDIX

Copy of MBR

MALADAPTIVE BEHAVIOR RECORD (MBR)
(Unabbreviated Form)

M. C. Barton, A. D. Witherspoon, and W. O. Jenkins

Total score: _____ Date of interview: _____

                                                (Month)   (Day)   (Year)

Interviewer: _____

Client's name: _____

                 (Last)   (First)   (Middle Initial)

Client's address: _____

                (Street, Street No. or P.O. Box)   (City)   (State)

Telephone number: _____ Age: _____ Race: _____

Occupation: _____ Marital status: _____

Reported educational level: _____ tested: _____

Number of children: _____ Number of dependents: _____

Client's group (treatment, control, etc.): _____

Client's ID No.: _____ Date of release or parole: _____

                                                     (Month)   (Day)   (Year)

Client's legal status (parole, release, discharged from parole, incarcerated in jail or prison, etc.)

_____

_____

Interview setting (home, employment site, office restaurant, jail, prison, etc.) _____

_____

TO THE INTERVIEWER:

The Maladaptive Behavior Record (MBR) manual should be carefully *studied* before interviewing the client and using this scale. Several interview tryouts should be performed and critiqued in the light of the instructions in the manual before further interviewing of clients. The MBR interview is to be used to assess the client's behavioral output in the community environment, either currently or immediately prior to being incarcerated in an institution. You should obtain sufficient behavioral information from the client to score each item. The client's opinions or judgements should not be allowed to confuse or interfere with the obtaining of behavioral information and the rating of the items on the basis of actual behavior.

Some items of the MBR require only the specification of the client's *behavior*. Other items require, in addition to specific behavior, the specification of features of the *environment* in order to pinpoint the client's *behavior* in response to certain conditions.

The MBR is forced choice. If the client has a maladaptive behavior problem, the interviewer enters a "1" by the corresponding item. If there is no maladaptive behavior a "0" is entered by the corresponding item. In *either* case, the interviewer specifies under *each* item the environmental condition(s) and the client's response(s) which served as the basis for rating the item. Enter the total score on the top of the first page of the MBR.

EMPLOYMENT

_____ 1. BEHAVIORAL RESPONSE TO INCOME. Rate "1" if client's employment income, pay schedule or commission arrangement fails to meet his basic needs *and* client is not responding to this problem appropriately by actively seeking other employment or a solution through his employer.

Specify: _____

_____

_____ 2. BEHAVIORAL RESPONSE TO WORKING CONDITIONS. Rate "1" if client's working conditions, such as heating, cooling, schedule, breaks and safety, are associated with significant anxiety, discomfort or inconvenience *and* the client is not actively seeking a solution to this problem.

Specify: _____

_____

_____ 3. INTERACTION WITH CO-WORKERS. Rate "1" if client has significant or continuing problems in his interactions with co-workers either by virtue of his behavior *or* by his failure to respond appropriately to problems generated by their behavior.

Specify: _____

_____

_____ 4. INTERACTIONS WITH EMPLOYER. Rate "1" if client has significant or continuing problems in his interactions with his employer either by virtue of his behavior *or* by his failure to respond appropriately to problems generated by his employer's behavior.

Specify: _____

_____

_____ 5. WORK ATTENDANCE. Rate "1" if client has been late or absent without following procedures acceptable to his employer.

Specify: _____

_____

ADDICTION

_____ 6. USE OF ALCOHOL. Rate "1" if client uses alcohol to the extent that it interferes with his interpersonal relationships or employment or results in financial difficulty for him or his family.

Specify: _____

_____

_____ 7. USE OF DRUGS. Rate "1" if client uses drugs to the extent that it
interferes with his interpersonal relationships or employment or results in
financial difficulty for him or his family.

Specify: _____

_____

_____ 8. GAMBLING. Rate "1" if client loses money excessibely, i.e., to the extent
that it interferes with his interpersonal relationships or results in financial
difficulty for him or his family.

Specify: _____

_____

INTERPERSONAL

_____ 9. FIGHTING. Rate "1" if client engages in (physical) fighting precipitated
either by his inappropriate behavior or by his failure to respond to the
behavior of others in such a manner as to avoid fighting.

Specify: _____

_____

_____ 10. VERBAL ABUSIVENESS. Rate "1" if client's verbal behavior toward others
is abusive, or if client is the recipient of verbal abuse, or if there is reciprocal
verbal abuse between client and others such as intense arguments.

Specify: _____

_____

_____ 11. MALADAPTIVE ASSOCIATIONS. Rate "1" if client spends time with
persons who exhibit maladaptive behavior in such areas as crime, drugs,
alcohol, sex, money management, and employment.

Specify: _____

_____

ECONOMICS

_____ 12. MANAGEMENT OF MONEY. Rate "1" if client has difficulty in managing
his money, i.e., spending for non-essentials, over-extended installment
purchasing to the extent that client is unable to purchase sufficient
essentials, meet financial obligations, etc.

Specify _____

_____

ADJUSTMENT

_____ 13. RESPONSES TO PHYSICAL CONDITION. Rate "1" if client has physical problems to which his responses are maladaptive, such as failing to secure and following treatment or by failure to arrange his activities in accordance with his physical condition.

Specify: _____

_____

_____ 14. PSYCHOLOGICAL ADJUSTMENT

(a) Rate "1" if client's verbal accounts of his behavior indicate unrealistic or excessive responses of withdrawal, avoidance, dependency on others, self-criticism, over compensatory behavior, denial of behavioral problems, etc.

(b) Rate "1" if client's verbal behavior indicates that fear, anxiety, or behavioral deficits interfere with meeting people or with instituting and maintaining supportive interpersonal relationships.

(c) Rate "1" if client's behavior during the interview indicates fear, anxiety or inadequacy as characterized by lack of eye contact, difficulty in speaking, trembling, excessive perspiring, etc., or if the client's behavior is excessively aggressive.

Specify: _____

_____

LEGAL

_____ 15. BEHAVIORAL RESPONSES TO LEGAL PROCESSES. Rate "1" if client's behavior has resulted in minor legal problems or processes *not* involving arrests, such as minor technical parole violations, investigation by legal authorities, legal proceedings against him by virtue of his failure to abide by contractual agreements, etc. Also, rate "1" if client is responding inappropriately to legal processes such as divorce or child custody litigation by avoiding subpoena, failing to appear in court, etc.

Specify: _____

_____

_____ 16. OTHER BEHAVIORAL PROBLEMS. Rate "1" if client has behavioral problems which are not covered in the preceding items. This item may include less frequently reported instances, such as sexual deviance (e.g., homosexuality, relations with prepubertal females, etc.) and a wide range of other behaviors such as maladaptive dress, hygiene, or residence maintenance, etc

Specify: _____

_____