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An Initial Study to Validate the Michigan Behavioral Skills Assessment Scale

James Jackson Coleman
Western Michigan University

AN INITIAL STUDY TO VALIDATE THE MICHIGAN BEHAVIORAL SKILLS ASSESSMENT SCALE

by

James Jackson Coleman

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DEDICATION

This dissertation is dedicated to my parents, Charles and Susie Coleman, who encouraged me to be; to my wife and children for assuring me that I am.

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Introduction

The dramatic changes in the field of mental retardation occuring in the past decade reflect a more enlightened societal attitude, which encompasses the attitudes of professionals working in the field as well as the general population. Whether the more liberal attitudes of the general public have resulted from the improved skills and more effective efforts of the professionals, or whether in fact the professional efforts have been in response to the pressures and demands of citizens groups is a moot point. It will suffice to note that the courts have ordered that severely and profoundly retarded individuals share with others the rights to due process, the right to treatment and appropriate education, and the right to live in an environment which is conducive to the development of whatever potentials they possess.

As programs and services for the mentally retarded have expanded and costs have increased, the demand for accountability has become a major force. Parents, legislators, and courts have all demanded that those involved in the delivery of service demonstrate the effectiveness of programs and procedures. Budgetary procedures generally require documentation of program effectiveness and justification of fiscal requirements. There is an expectation that there be operationally defined objectives which can be measured over time, and that this measurement of change will provide data as an effective management tool to guarantee accountability.

Administrative and clinical personnel working in the field of mental retardation have responded by defining objectives in terms of behavioral change, but have found the effort to generate data from the measurement of this change frustrated by the absence of acceptable procedures or appropriate instruments for such measurement. Underlying this difficulty is the nature of the condition with which they are concerned. Mental retardation is a behavior-descriptive term, and is applied to persons whose developmental behavior changes very little within the time frames normally used for budgetary and other administrative purposes.

Until recently, there was general acceptance of the standardized "intelligence test" as an effective instrument to measure behavior and to determine developmental levels. The original intelligence test was developed by Binet specifically for the purpose of identification and classification of the mentally retarded. However, by their design, such tests do not generate data regarding change of behavior, except as one assumes that lack of change, or maintenance of I.Q. score, indicates continuing learning and development at a rate deemed appropriate for the individual. This approach is incompatible with expectations that behavioral changes are possible and necessary even though the subject is clearly and accurately determined to be retarded. Intelligence tests do not measure the type nor degree of behavioral change which is incorporated as a result of administrative requirements, in the program objectives of a service delivery system.

In response to the need for techniques designed to measure the results of program efforts, the concept of measuring adaptive behavior

has been developed as a possible alternative, or an addition to the measurement of intelligence. Adaptive behavior refers to the basic ability of an individual to meet the social and architectural demands of his environment (Heber, 1961, p. 607). More specifically, adaptive behavior addresses the three domains of maturation, learning, and social competence.

Several authors have orchestrated definitions, paradigms, and systems which provide operational frameworks that conceptualize the essential components which are necessary to assess adaptive behavior. The most widely recognized instrument currently available is the American Association on Mental Deficiency Adaptive Behavior Scale. While this instrument provides information not included in the various instruments for measuring intelligence, it has not been able to provide the data required for the management system of several states; and it is not universally accepted by professionals in the field, as demonstrated by the fact that several states including Minnesota, Ohio, Georgia, Florida, Missouri and Michigan have invested, and continue to invest, considerable sums and staff resources in attempts to achieve consensual agreement among professionals and lay organizations on appropriate other approaches.

Purpose of the Study

The Mental Health Code of Michigan (1974, Sec. 116F) mandates that the Department of Mental Health "review and evaluate the relevance, quality, effectiveness and efficiency of mental health services being provided by the department and shall assure such review and evaluation for mental health services being provided by county community mental

health programs." This has resulted in a requirement by the Department of Management and Budget that any fiscal request must be accompanied by information regarding the procedure to be used to measure the impact effectiveness of the program for which funds are being sought.

The Code further states that "The department shall endeavor to ensure that no individual will be admitted to or provided services by a facility of the department or a facility of a county community mental health program unless such facility can provide treatment or services appropriate to the individual's condition and needs." The Code thus clearly indicates that not only must the Department of Mental Health demonstrate overall accountability, but individual programming and planning, based on an assessment of the specific needs of the individual must be constructed in such a manner that appropriate evaluation of the individual plan can be conducted. The detailed assessment, evaluation of clients and the development and implementation of a plan is a broad and very specific responsibility for Michigan's institutions and agencies established by the Code.

The Administrative Rules (1975, p. 105) written to implement Michigan's Mental Health Code state:

1. A plan of service shall be developed by an interdisciplinary team of mental health professionals for each resident and shall be included in the record of the resident.

2. Mental health professionals involved in the care of a resident shall work together to develop an integrated plan of service.

3. One mental health professional who is a member of the treatment habilitation team shall be responsible for the development, coordination and implementation of an individual plan of service, record progress and changes, initiate changes or reviews when necessary and incorporate in the plan restrictions or limitations of

rights placed on the resident. An initial plan of service shall be approved and signed by the mental health professional responsible for the plan within 5 working days after admission or completion of the comprehensive examination and recorded in the case record.

4. An individualized plan of service shall contain, whenever applicable:

   (a) A statement of the nature of specific problems or disabilities and specific needs.

   (b) Evaluation of strengths as well as weaknesses.

   (c) Evaluation of the degree of physical disability and the plan for remedial or restorative measures.

   (d) Evaluation of the degree of mental disability and the service plan for appropriate measure to be taken to relieve treatable conditions and distress and to compensate for nonreversible impairment.

   (e) Evaluation of capacity for social interaction and plan for appropriate measures to increase adaptive capacity.

   (f) Evaluation of environmental and physical limits required to safeguard health and safety.

   (g) Determination of the least restrictive treatment or habilitation setting necessary to achieve the purposes of admission.

   (h) A statement of and rationale for intermediate and long-range goals, specifying the manner in which the facility can improve the resident's condition with a projected timetable for attainment.

   (i) Proposed staff involvement with the resident in order to attain goals, including a minimum number of individual contacts and consultations planned between the resident and professional staff the expected minimum number of hours of the consultations in each 30-day period.

The Administrative Rules do not, nor should they, specify the tools which are to be used to conduct evaluations. Instead, they serve notice to the agencies that evaluations shall be conducted prior to implementing a plan of service. This assignment reflects a rapidly

growing philosophy of the courts and is being incorporated in many of the state and federal laws as a condition for agencies to continue to receive appropriations.

These considerations have stimulated a heightened interest by the Michigan Department of Mental Health in the development of a data collection system which will provide, (1) evidence of the effectiveness of programs, (2) an assessment tool which can serve as a basis for individual program planning, and (3) establish criteria for measuring behavioral change. The purpose of this study was to determine both the validity of an instrument developed by agency staff, known as the Michigan Behavioral Skills Assessment Scale (MBSAS), and the reliability of attendant raters of resident adaptive behavior.

Background Information

Without an appreciation or understanding of past philosophies and practices governing public institutions for the mentally retarded, it is difficult to comprehend fully the service delivery problems related to the requirements for accountability. It is important to understand both the role institutions have been asked to play during the historical evolution of institutional services, and the role which is required today. This study is not concerned with describing the details of different institutional practices nor the various pieces of legislation enacted to correct deficiencies. Such an attempt would be superfluous in view of the availability of wide-ranging accounts and descriptions provided by Kugel and Wolfensberger (1969) and the President's Panel on Mental Retardation (1962). Instead, some of the

general perceptions of researchers in the study of mental retardation services are cited.

The role and function of institutions for the retarded have changed significantly during the last ten years (Butterfield, 1969, p. 31). The changes are reflected in the transition from a custodial model to one of active treatment emphasizing habilitative services. The custodial model emphasized dependency instead of independency. The developmental model stresses those services that would assist the individual to attain proficiency in adaptive behaior which may facilitate his eventual discharge and return to the community. Many authors have written about past institutional practices, including but not limited to, service programs, employment of attendant staff, living conditions, methods of service delivery (Blatt and Kaplan, 1966; Braginsky, Braginsky and Ring, 1969; Braginski and Braginsky, 1971; Butterfield, 1967; Dybwad, 1969, 1967; Tizard, 1964; Kugel and Wolfensberger, 1969). These authors classified the institutions as being grossly inadequate, overcrowded, understaffed, de-humanizing, inefficient and ineffective, medically oriented and in need of massive reform. Legislative and administrative action during the sixties and seventies was aimed at correcting the deficiencies listed. The events that have led to a sudden surge of political action and court suits devoted to "humane treatment" of the retarded are outlined in a series of articles by Abeson, 1972; Allen, 1969; Berger, 1967; Dindelspiil, 1969; Doll, 1962; Friedman, 1972; Wallin, 1966; and Weintrabb, Abeson, Braddock, 1971. The present emphasis on institutional reform and the development of community services is a positive response to the legal mandates. More

program services are beginning to reflect the developmental approach. Programs with this focus most certainly need the kinds of information that can be generated from an appropriate assessment instrument.

The information to be obtained from an adaptive behavior scale must describe adaptive behavior along the lines of a developmental skill continuum. At the present time, according to Michigan Department of Mental Health officials, existing adaptive behavior scales do not possess the bredth and scope necessary to be considered for uniform use in their programs for mentally retarded individuals. Michigan Department of Mental Health policies governing the operations of public institutions for the retarded dictate that all residents receive at least a comprehensive annual review by an interdisciplinary team of professionals. The implementation of this policy places an ever greater burden on the inadequately staffed professional, technical, and direct care teams. Due to a shortage of staff at all levels, time is a most valuable commodity. Many of the assessment instruments used by the professional staff assigned the responsibility for designing programs are lengthy, unreliable and of questionable validity. Most are quite limited in their applicability in assessing the broad range of impairments and disabilities found in institutional populations. An even smaller percentage of the available validated tests have any functional utility in appraising the profoundly and severly retarded even though the majority of the residents presently residing in Michigan's residential facialities are so classified. Therefore, a quantitative and qualitative measurement instrument is needed to assess these levels, and it must be designed to be administered in an economical and efficient

manner. In order to be useful, the scale must be of greater applicability and utility than the existing instruments or methods used to assess adaptive behavior.

Gathering information which clearly describes the present adaptive skill level functioning of residents is the first step in the development of an individualized habilitation program plan. This is a critical step because information obtained at this level serves as a guide to help other disciplines plan intervention strategies.

In the past, the bulk of this information has been procured by top level professional and service staffs, such as physicians, psychologists, social workers, program directors and building supervisors. This approach has seriously limited the number of residents who could be evaluated at any given time, has assigned responsibilities of professionals which could be conducted, perhaps, by lower level staff, and has sub-optimized the use of attendant personnel. Literature indicates that attendants may be able to construct observations pertinent to the assessment of resident functioning by virtue of their daily contact with the resident.

Decker (1970, p. 7) has documented the difficulty which institutional staff workers experience in obtaining a detailed, individualized assessment of resident functioning behavior. Gardner and Giampa (1971, p. 352) have conducted several studies which outline the problems that staffs of institutions encounter in assessing the profoundly and severely retarded. Their studies show that the psychological assessment of severely and profoundly retarded children is often a difficult task due to the low level of competence in the areas of expressive (speech) and receptive (following directions) communications.

Methods presently used to collect data regarding functioning levels have proven to be inadequate, expensive and of limited use (Decker, p. 23). Nine years before, according to Balthazar (1970, p. 354), Heber stated, "A major problem in obtaining accurate multi-dimensional measure lies in the availability of adequate instruments to test behavior." Balthazar and Stevens (1969, p. 25) state that this is a critical point, particularly at the lower ranges of mental retardation where established performance and intelligence tests often fail to discriminate.

Evelyn Provitt, Program Consultant for Mental Retardation Services, Michigan Department of Mental Health, outlined in January, 1973, the criteria which a scale must possess to assess appropriately and adequately the many levels of individual adaptive behavior found in Michigan's residential centers for the mentally retarded. In a conversation with Provitt she indicated that the scale must be developmentally sequenced according to standards accepted for growth and development of mentally retarded individuals, have operational utility for client and staff, be both valid and reliable, reflect the array of behaviors found in institutional populations, and terms used to describe levels of development must be measurable. In addition, the scale should also be evaluated by superintendents of the residential centers for the retarded to determine its potential application as a component in the planning and administrative process to develop, modify, and expand existing services, programs and staff compositions.

In February, 1973, Marlin H. Roll, Ph.D., Superintendent, Caro Regional Center, Caro, Michigan, and the author, then Administrative

Assistant at Caro, presented Evelyn Provitt with a draft version of an assessment scale designed to provide accurate descriptive data regarding adaptive behavior of institutional residents which it was hoped could be used to justify budgetary requests and document program effectiveness. In the opinion of the authors, the scale possessed the essential criteria described by Provitt in January. The instrument was a product of several years of collaborative effort aimed at developing an adequate system of documentation of resident care and treatment in the institutional setting, and had utilized input from staff of two institutions, as well as material from the literature and contributions from consultants, particularly Harold Decker, M.D., Chief Pediatrician, University of Arkansas Medical School.

While Superintendent at Monson State Hospital, Monson, Massachusetts, Dr. Roll had recognized the necessity for a systematized procedure for program development and documentation, and had attempted to utilize the approach described by Decker in "A System for Planning and Achieving Comprehensive Health Care in Residential Institutions for the Mentally Retarded", (Decker, 1970). The author, as a member of the Monson staff, was responsible for practical implementation of the system. A resident functioning questionnaire, to be completed by direct care personnel, was an essential component of the "Decker system," and proved to be somewhat cumbersome and rather inadequate in terms of data which it provided in light of recent requirements.

In December, 1972, Dr. Roll moved to Michigan to assume the superintendency at the Caro Regional Center, and faced a similar need to develop a system of program development and documentation. The

investigator came to Caro in February, 1973, as Administrative Assistant to Dr. Roll, with a primary responsibility for supervising the development and implementation of a Resident Care System, which was to be based on the Decker model, with revisions indicated by experience and the somewhat different requirements of the Michigan Rules. Priority was given to more adequate development of the concept of direct care staff evaluation of the residents' functioning level as introduced by Decker. The Caro system was designed to include such data as being of equal importance to professional evaluation, and to lead to an individualized treatment and training plan for each resident. Each plan would be expressed in similar behavioral objectives, so that the defined needs would be completely comprehensible to the staff charged with the responsibility for care and training.

The program staff at Caro, under the direction of Marjorie Clos, Ph.D., Director of Programs, worked closely with Dr. Roll and the author in the development of the Caro profile of Functional Behavior. Although based on the Decker form, the changes instituted at Caro added substantially to the scale's content and format. The classification areas were expanded from 21 to 26, interval levels of performance within each classification were increased from 5 to 7, and sentences were modified to reflect current behavioral objective terminology to provide a better description of resident functioning in each classification area. As a result of the changes in content and format, program planners and administrative decision makers were provided information which would enable them to identify and procure the appropriate professional and technical resources to meet residents' needs. The revised scale was

offered to Provitt in June of 1973 for consideration for use on a uniform basis by each of the state's residential centers.

On September 14, 1973, the Superintendent's Committee on Staffing Standards was assigned the responsibility by Dr. Gordon Yudashkin (Director, Department of Mental Health) of reviewing performance standards applicable to mental retardation institutions with the objective of developing more meaningful rating scales and data indicators which could be computerized. Members of the select committee were C. Dale Barrett, Chairman, Charles Martin, Albert Meuli, Marlin Roll and Donald Worden.

A report from Dale Barrett, M.D., Chairman of the Superintendent's Committee on Resident Performance Standards and Rating System, January 17, 1974, highlights the views of the committee regarding the Caro Profile of Functional Behavior:

> In essentially every category there is no question, in my judgment, that the CARO system is far superior to the ABS system, even with the modifications introduced by the Lapeer staff. . . The ABS scale simply doesn't extend downward far enough into the younger age range (below 5 years) or into the more profound levels of retardation, at least with any degree of adequacy or consistency. . . The CARO concept has been beautifully thought out in terms of a progressive incremental set of performance criteria for each element or category . . . of functioning or performance. This makes the method of scoring and rating for each resident objective and quantitative. These are the basic elements needed for an agency-wide system that has comparability and ultimate standardization capability.

On August 21, 1974, the Superintendent's Committee on Standards recommended to the Director of the Department of Mental Health that the Michigan Behavioral Skills Assessment Scale (Caro Profile of Functional

Behavior) as revised on July 8, 1974, be adopted on an experimental basis for implementation by all of the residential mental retardation facilities.

Chapter II

Review of Selected Literature

Purpose

The review of selected literature found in this chapter provides two definitions of mental retardation and describes (1) the most commonly used intelligence tests, and (2) scales and checklists of adaptive behavior. The review of these instruments provided the investigator with additional supportive data necessary to conduct the study outlined in Chapter III. Information obtained from the literature, coupled with the decision of the Department of Mental Health to develop a uniform client assessment instrument, provide a logically defensible basis for initiating the study.

Definitions of Mental Retardation

There have been many terms used to describe conditions of mental retardation. Flannigan, Baker, and Lafollette (1970, p. 26) identified the terms imbecility, cultural familial, moronity, exogenous, oligophrenia, idiocy, feeblemindedness, and amentia as traditional terminology used to describe the mentally retarded. Kirk (1951, p. 4) used the following terms to define three of the above mentioned categories:

> Idiot
>
> The category indicating the greatest degree of defect is that of idiocy. A child who is an idiot is so low intellectually that he does not learn to talk and usually does not learn to take care of his bodily needs. These children require complete custodial care and supervision, since they cannot

be trained even in the simple routines of daily life and do not possess the ability to learn to survive without external support. Idiots have been generally classified as those persons having I.Q.'s of 0 to 20 or 25 on psychometric tests.

Imbecile

An imbecile represents the next level in the intelligence scale. An imbecile will probably develop some language, be trained to care for his bodily needs, and have trainability as far as daily habits and routines are concerned. He will, however, require supervision and care in his home or in institutions throughout his life. In terms of I.Q. the imbecile rates between 20 or 25 and 40 or 50 on intelligence tests. The criteria upon which an individual is classified as an imbecile also include whether he is uneducatable in social and occupational areas. He requires or will require care and supervision as an adult as the result of a marked intelligence defect. A classification of imbecile means that the individual must remain dependent upon others for support and supervision throughout his life.

Moron

The term moron was used by Goddard to denote the child of low intelligence who is above the imbecile level, who has some degree of educability in terms of reading, writing, and arithmetic, considerable trainability in habits, and some degree of educability in the area of social and occupational competence. The moron is found in considerable numbers in institutions for the mentally deficient. A substantial number of such children, however, are also found in special classes for the mentally handicapped, and in some communities are admitted into the classes of the regualr school even though their educability is quite low compared to that of normal children. As measured by the conventional intelligence test, such as the Binet, the moron obtains an I.Q. ranging roughly between 50 and 70. The moron can usually learn to adjust socially outside of an institution and can become partially or totally self-supporting, providing adequate education has been acquired and some supervision provided.

The categories were adequate for labeling purposes in their day, but provided limited descriptive information about the individual for programming purposes.

Tredgold (1937, p. 207) defined mental deficiency as:

> a state of incomplete mental development of such a kind and degree that the individual is incapable of adapting himself to the normal environment of his fellows in such a way as to maintain existence independently of supervision, control, or external support.

Doll (1941, p. 214) expanded Tredgold's definition to include:

> (1) socially incompetent, that is, socially inadequate and occupationally incompetent and unable to manage his own affairs, (2) mentally subnormal, (3) retarded intellectually from birth or early age, (4) retarded at maturity, (5) mentally deficient as a result of constitutional origin, through heredity or disease, and (6) essentially incurable.

The dilemma of defining mental retardation has continued, according to the Braginskys (1973, p. 142) in quoting R. F. Heber:

> Even President Kennedy's highly prestigious Panel on Mental Retardation could not extricate itself from this conceptual morass. In their report they refer to mental retardation as a disease entity, a health problem. Later they use the term as a culturally relative concept; and still later as a hypothetical construct. But as science and good sense reminds us, no one concept can be real, relative and hypothetical at the same time.

The inconsistencies of the President's Panel typify the definition dilemma. The Braginskys (1973, p. 142) in quoting Leo Kanner commented:

> The casual observer may be forgiven for feeling puzzled at the groping of men and women deservedly acknowledged as experts. It does indeed seem strange that after nearly a century of scientific occupation with 'feeble-mindedness' those best informed should still be wondering what they have been, and still are dealing with.

Grossman (1973, p. 11) defined mental retardation as, "Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period." He further defined 'significantly subaverage' as performance which is more than two standard deviations from the mean or average on any standardized intelligence test. (ibid.)

Until the 1950's, mental retardation was defined by the criterion of low intelligence. Psychological tests were developed to identify the normal (I.Q.'s above 70) and those considered mentally retarded (I.Q.'s below 70).

Utilization of Intelligence Tests

The literature on the measurement of intelligence in the field of mental retardation is so extensive that it was prohibitive for the investigator to review all the tests used. One restriction on the coverage of the literature was based on the work of Silverstein. Silverstein, in his 1967 study, found that:

> The most commonly used tests, in order of frequency of use, were the Peabody Picture Vocabulary Test, the Stanford-Binet Intelligence Scale, the Bender-Gestalt Test, and the Wechsler Intelligence Scale for Children, the Vineland Social Maturity Scale and the Wechsler Adult Intelligence Scale, and the Columbia Mental Maturity Scale. An emphasis on research in the area of intellectual functioning was apparent, as was a tendency to conduct research with the tests that are most used in clinical work.

The most commonly used intelligence test prior to the 1960's was the revised forms of the Binet Intelligence Scale. The Binet Scale was developed in 1904, and used as a device to separate the normal and feeble-minded for educational purposes (Savage, 1970, p. 30).

Government officials in France and abroad found other uses for the scale and quickly began using the scale to isolate individuals rather than to educate them (CBS Report, 1975).

Binet's scale was standardized in America in 1916. The scale became known as the Stanford-Binet. American psychologists translated Binet's concept and began to use the scale to classify individuals for various jobs. The test was widely used by the military during World War I to classify officers, desk clerks, and soldiers, the latter considered most expendable.

The development and wide appeal of the American standardized Stanford-Binet scale in 1916, the L and M form by Terman and Merrill, 1937, and the recent combined L-M by Terman and Merrill, 1960, have had a tremendous effect on both test construction and research into the concepts of human ability (Savage, 1970, p. 30). The Stanford-Binet consists of seven content categories, e.g., reasoning, memory, conceptualization, social intelligence, numerical reasoning, and visual-motor coordination. Table I, p. 20, provides a schematic layout of the sub-tests and content areas of the Stanford-Binet.

Cronbach (1970, p. 211) describing the Stanford-Binet materials and procedures gave the following account:

> While the Wechsler scales are more often used today than the Stanford-Binet (SB), the latter is equally sound and some testers continue to prefer it. Moreover, such a large fraction of the research literature is based on the Stanford-Binet that an understanding of the test will continue to be necessary.
>
> Binet thought of intelligence as a steadily growing power, and so proposed a scale or ladder of tasks. His measurement finds out how far up the ladder the child can go before the tasks become too difficult. For any level on the ladder Binet selected tasks that average children at that age are just mastering.

Table I

Stanford-Binet

Age Level	Number of Tests	Language	Reasoning	Memory	Conceptual	Social intelligence	Numerical reasoning	Visual-motor
2-5	42	26	21	10	5	17	0	21
6-10	31	19	10	19	16	16	10	10
11-14	23	30	26	17	9	9	9	0
AA-SAIII	26	31	15	12	27	0	15	0
Tests representative of category		Naming objects; rhymes	Orientation; verbal absurdities	Memory for sentences; for digits	Similarities; proverbs	Comprehension; picture absurdities	Making change; ingenuity	Form board; copying a square

> The tasks for young children involve relatively simple discrimination and recall, whereas those for middle childhood require intellectual manipulations.

Williams (1970, p. 499) quoted Anastasi, who summarized some of the literature on the reliability of the Binet scales by commenting "that the Binet tends to be more reliable for the older than for the younger ages, and for the lower than for the higher I.Q.'s."

Williams (1970, p. 499) also contributed the following:

> While it is right to draw attention to reported drawbacks of the Binet scale, it is also important to underline its usefullness for the assessment of slow-learners. It is a scale which is attractive to the subject, can measure low intelligence levels, can be used over a wide age-range and which correlates well with education success. The verbal loading which is in one sense a disadvantage is in another sense an advantage, especially when the psychologist is concerned with the prediction of educational performance.

According to Savage (1970, p. 30-32):

> the Binet type tests have rather high levels of construct validity for the concept of intelligence and led to the development of measures of intelligence with real practical value. In many studies, the predictive validity of the stanford-Binet has been found to be good in relation to academic and occupational success.
>
> The Stanford-Binet, despite its wide variety of types of item, has a large general factor accounting for much of its variance. . . The overall I.Q. though adequate for general classification purposes, cannot be broken down into its main components. Here lies its major clinical limitation. Furthermore, the Stanford-Binet, even in its latest 1960 edition, has insufficient headroom and normative data to be suitable for adult testing. Though its value for grade mental deficiency must not be underestimated, one would still prefer to obtain

> assessments of various intellectual factors or components than merely obtain an overall I.Q. The use of the Stanford-Binet as a clinical interview on which to spectulate about personality and various other patient factors is unnecessary, highly unscientific and extremely misleading. It can too frequently lead to an aire of authority surrounding a purely 'intuitive' and highly unreliable set of statements on factors which the test was not designed to assess quantitatively. The historical importance of this measure and its use with children are more compelling attributes than its application with adult patients.

DiLorenzo and Nagler (1968, p. 443) identified examiner differences on the Stanford-Binet. The concluded:

> . . . that even with highly trained and experienced examiners, using the Stanford-Binet in the context of experimental research measurement error can be introduced and that researchers should build into their designs controls for examiner differences and report results by examiners separately.

Cieutat also discovered examiner differences with the Stanford-Binet.

Cieutat (1965, p. 318) suggests that:

> . . . further inquiry into examiner differences with individually administered intelligence tests. Subsequent study should question which test components (e.g., items, subtests) are susceptible to examiner influence and which dimensions of examiner differences (e.g., sex, personality, degree of training) affect scores.

Friedes in summarizing the Binet stated that:

> The Binet scales have been around a long time and their faults are well known. Specifically to be avoided is its classic use in older cases of severe retardation in order to pinpoint levels of I.Q. below 50 or so.
>
> The Stanford-Binet Intelligence Scale is an old, old vehicle. It has led a distinguished life as a pioneer in the bootstrap operation that is the assessment enterprise. It's time is just about over.

The Wechsler-Bellevue (W-B), another prominent test of intelligence, was developed by David Wechsler in 1939, at Bellevue Hospital, N.Y. The scale was designed initially to test social derelicts, and subsequently to test World War II verterans. The W-B was modified to encompass three specific age levels: Wechsler Intelligence Scale for Children (W.I.S.C.) established in 1949 for chronological ages 7-16, Wechsler Adult Intelligence Scale (W.A.I.S.O established in 1955 for chronological ages 17 and over, and the Wechsler Preschool-Primary Scale of Intelligence (W.P.P.S.I.) established in 1967 for chronological ages 4-6½. (Chronbach, 1970, p. 208). Table II, p.24 provides the subtests for the above mentioned scales.

Chronbach (1970, p 208) continues by saying that:

> . . . The three scales have the same general pattern, with five or six subtests producing a Verbal score and five more generating a Performance score, both together giving the Full Scale score. The subtests at different age levels are similar but not identical. In addition to the subtests regularly used in a scale, there are alternate tests. Thus, in WISC, Digit Span constitutes a sixth Verbal subtest that may be employed if one of the regular tests is somehow spoiled during administration or the tester particularly desires to observe Digit Span performance.

Savage (1970, p. 38) reports that:

> The normative data of the W.A.I.S. is a great improvement on the previous Wechsler-Bellevue measures and up to the age 65 probably represents the best sandardization sample used in psychometric test construction; age, sex, education, occupation, geographical region, urban versus rural residence and colour were controlled on the basis of the 1950 U.S. census . . . .
>
> The clinical use of the W.A.I.S. as an instrument for classifying general cognitive levels in terms of a standardized score, the Full Scale intelligence Quotient (F.S.I.Q.) probably has no present equal in the assessment of individual ability. Problems,

Table II

Subtests of the Wechsler Scales for Various Ages

Preschool-Primary (WPPSI)	Children (WISC)	Adults (WAIS)
	VERBAL	
Information	Information	Inforamtion
Comprehension	Comprehension	Comprehension
Arithematic	Arithmetic	Arithmetic
Similarities	Similarities	Similarities
Vocabulary	Vocabulary	Vocabulary
(Sentences)	(Digit Span)	Digit Span
	PERFORMANCE	
Block Design	Block Design	Block Design
Picture Completion	Picture Completion	Picture Completion
	Picture Arrangement	Picture Arrangement
	Object Asembly	Object Assembly
		Digit Symbol
Animal House		
Maxes	(Mazes)	
	Coding	
Geometric Design		

*Parentheses indicate tests used as alternates or supplements.

however, do exist in relation to general intellectual assessment with the W.A.I.S., in particular where the classification of mental deficiency and examining the effects of age on cognitive functioning are concerned. There is accumulating evidence that the W.A.I.S. yields higher subnormal I.Q.'s than the W.-B., W.I.S.C. or Stanford-Binet.

According to Gunzburg 91965, p. 293-94):

> The W.A.I.S. has more or less replaced the Wechsler-Bellevue test and many of the defects discovered in the earlier version have now been overcome. This refers particularly to the standardization sample which was mostly urban from the City and State of New York . . . .
>
> Some faults and drawbacks have, however, not been overcome even in the new W.A.I.S.
> (1) The subtests have been chosen subjectively and there is little or no evidence that they in fact assess those aspects of intelligence behavior they are supposed to measure;
> (2) The reliability of some of the subtests is low. This has direct implications on the use of subtests for providing specific diagnostic clues on clinical groups;
> (3) The claims which have been made for the clinical significance of the subtest patterns have been repeatedly checked and found wanting. The mentally deficient person is said to display a typical pattern of successes and failures in the various subtests which should assist in differentiating the defective from other conditions showing a low I.Q. . . . .
> (5) In England the order of difficulty of items in some of the subtests (e.g. vocabulary) appears to be different, which has implications of the test administration.
> (6) The phrasing of some test questions appears to be confusing and incomprehensible and some test pictures are relatively difficult for English mental defectives.

Gunzburg's critique of the W.A.I.S. coincides with many of the findings of A. B. Silverstein and others. Gunzburg (1965, p. 294) points out however, that:

> The last mentioned drawbacks have led to many translations of, or substitutions for, American items in England, which is

> highly unsatisfactory, yet the W.A.I.S. is nevertheless the best available individual scale of adult intelligence and should always be employed when assessing older mental defectives.

The W.A.I.S. is a better balanced test instrument for the mentally retarded because it relies on performance and verbal skills as opposed to the heavily weighted verbal Binet.

The Wechsler Intelligence Scale for Children (W.I.S.C.), consists of ten subtests with two alternates, five verbal with one alternate and five performance with one alternate. The W.I.S.C. has become one of the most commonly used tests in the diagnosis of mental retardation. Therefore, it is essential that strengths and weaknesses of the test be discussed. Jones and Maxwell (1970, p. 500), stated that:

> One of the practical drawbacks to the theory underlying the construction of the W.I.S.C. is the factorial validity of the scales.

Williams (1970, p. 500) in quoting Jones and Maxwell also showed:

> . . . that the two sub-scales are not as clearly differentiated as their titles would suggest. Thus two of the six subtests on the performance of the scale, picture completion and picture arrangement, are quite heavily verbally loaded.

Littel (1960, p. 132-156) gave a reasonable appraisal of the W. S. I. C. Althought he criticized, in his review, the rationale and absence of predictive validity data, he also commented that:

> The W.I.S.C. appears to be a relatively well standardized test with many virtures. It correlates consistently well with other measures of intelligence, appears to be widely accepted and used, and in general seems to merit further research and development.

Anastasi (1954, p. 219) provided a contrasting view of the standardization qualities of both the Binet and W.I.S.C. She said

that:

> Both the Binet and W.I.S.C. are standardized on all-white populations, and they have received a great deal of criticism for being culturally biased. Some children may perform poorly by virture of the biases in language and cultural background which underlie the tests. The two tests, like most other intelligence tests, seem to favor urban children over rural children, children from better environments and verbal over non-verbal children.

Williams (1970, 201) stated that:

> One of the major disadvantages of the W.I.S.C., i.e., its age floor of 5 years, has been dealt with by the introduction of the W.P.P.S.I., which makes the Wechsler approach to the measurement of intelligence available to a lower age-limit of 4 years. However, the other chief drawback of the W.I.S.C. scales, their inability to measure very low (or very high) intelligence levels (the full scale estimates I.Q.s between the limits of 45 and 155) remains a potential weakness for work with some slow-learners.

Williams (1970, p. 502) further observed that:

> The W.I.S.C. performance scale is a most useful battery of short performance sub-tests, but there is often a need to obtain a more detailed picture of the slow-learner's non-verbal skills than is is provided by the W.I.S.C. performance scale alsone.

His findings support the need for an indepth qualitative analysis of performance.

The Peabody Picture Vocabulary Test (PPVT) is another standardized measure of intelligence. The PPVT was developed by Dunn in 1959. Chronbach (1970, p. 254) provided the following brief description of the PPVT:

> Ages 2½ to 18. A word is spoken and the child points to the appropriate picture. Useful in a clinical examination of the retarded or handicapped, as it reflects vocabulary development independent of ability to express ideas. Not sufficiently broad or thorough to be used in place of SB or WISC.

Allen, Haupt, and Jones (1964, p. 421-422) found that:

> The PPVT is an adequate estimate of intellectual functioning in the non-retarded child. From the point of view of the level of visual perceptual development, however, there are these differences when used with the retarded child. (1) The PPVT is a satisfactory estimate of intellectual efficiency for retarded children whose visual perceptual development is appropriate for their mental ages. (2) In retarded children who demonstrate severe impairment in visual perception development, the PPVT overestimates to a significant degree the youngster's intellectual efficiency.

In their analysis of the WISC subtest and PPVT data it was concluded that:

> . . . the PPVT is not sensitive to those processes tapped and evaluated by the WISC Performance subtests. This holds especially for cthe low perceiver group in whom visual perceptual disturbance in marked. Therefore, the PPVT is a fairly representative assessment of intelligence in a child who is relative intact in the development of visual perception skills. On the other hadn, where there is known visual perceptual difficulty, the PPVT should not be the test of choice.

Mittler (1970, p. 632) found that "The original American standardization could be used on children from the age of about 21 months upwards." He also pointed out that, "This test has the advantage of not requiring more than a pointing response from the child, but it measures only vocabulary - obviously only a small segment of the comprehension complex.

In a recent study, Carr (1967, p. 937-939) "warned against the used of the PPVT as a 'quick' intelligence scale, even for screening purposes."

Shaw et al (1966, p. 601-606) found "only small correlations between PPVT and the WISC.

Evans stated that:

> The only score given is in terms of receptive language, and pictures are very close together,

both of which limit the usefulness of the scale with mentally retarded and visually impaired.

Burnett (1965, p. 715), in his study, indicated that:

> . . . the PPVT correlates significantly with the standard Wechsler and Binet I.Q.'s and that it is a useful instrument for obtaining intelligence estimates especially when limited time is available.

He further asserted that:

> . . . the PPVT is a useful screening device for measuring the intelligence of emotionally disturbed educable mentally retarded children and adolescents.

Kaufman and Ivanoff (1968, p. 398), later determined:

> The PPVT at age ranges typically beyond the maximum age level (17-6 to 18-5) used in the standardixation sample on the PPVT, that the given PPVT MA equivalents may be far more usable than the PPVT IQ score in prognosticating intellectual functioning of the mentally retarded. It would seem, however, that no matter how we approach the issue, the PPVT is less than a desirable instrument in assessing the functional intellectual ability of the mentally retarded beyond the chronological age of 18. The PPVT fails to assess the intellectual functioning at as high a level of confidence as desired.

Braginsky and Braginsky (1973, p. 20) in quoting Seymour Sraason and John Doris, succinctly pinpoint the shortcoming of intelligence tests. They stated stat:

> . . . The assessment of intellectual functioning can be made only throgh tests or procedures that reflect a comprehensive theory of intelligence - a condition not met by the most frequently used tests today.

Conley (1973, p. 9) provided both a fefense for the sole criterion of I.Q. and the criterion of social competence as measures to be included in determining mental retardation. He stated that a definition of mental retardation based solely on I.Q. has the following

advantages:

> (1) By defining mental retardation in terms of the one variable that almost all professionas agree is its primary characteristic, the ambiguity surrounding the term would be reduced. All persons within a given level of intellectual functioning would be considered as either retareded or not retarded - a diagnosis that would be unaffected by occupational pursuit, age, the economic climate, etc.
> (2) Viewing mental retardation as one among many factors affecting social competenceemphasizes the necessity for a meaningful appraisal of the importance and inter-relationships among these factors. This will provide needed guides to appropriate social policy. In the past, there has been an unfortunate tendency to place great stress on compensating for the intellectual deficits of the retarded while neglecting the other factors that lead to social incompetence.
> (3) A definition based solely on IQ would be more definitive of the population that is likely to require special assistance. Althugh many of these persons will be satisfactorily maintaining themselves at a given point in time, they represent a high-risk group, many of whom will need services if conditions change, e.g., a death in the family, job loss, etc. It is not necessary to know which persons among all those of given level of mental subnormality will require services, but it is necessary to be prepared to provide services when needed.

In defense of the criterion of social competence Conley (1973, p. 8) stated:

> 1) The criterion of social competence reduces the importance of determining how mentally subnormal a person must be before he is diagnosed as mentally retarded. The problem, as noted long ago by Terman, is that 'Since the frequency of the various grades of intelligence decreases gradually and at no point abruptly on each side of the median, it is evident that there is no definite dividing line between normality and feeble-mindedness . . . The number of mentally defective individuals in the population will depend upon the standard arbitrarily set up as to what constitutes mental deficieincy.' (Terman, 1916, p. 67) The importance of choice of a standard becomes manifest when we observe that there are twice as many people with I.Q.s below 75 as there are people with I.Q.s below 70. Although the criterion of social competence does not eliminate the necessity for selecting a cut-off point, it ensures that only those persons whose deficient mental functioning actually results in social incompetence will be labeled as retarded.

2) Many authorities distrust the results of I.Q. tests. These tests are subject to substantial errors of measurement, depending on the person doing the testing, the physical conditions surrounding the test, and the attitudes and physical alertness of the person being tested. In addition, it is believed that the best-known I.Q. tests misrepresent the abilities of nonwhites, the poor, and persons with physical and mental handicaps. Finally intelligence tests are imperfect measures of "intelligence" - an abstraction that lacks a generally agreed upon definition, and all of whose components are not equally accessible to testing. The criterion of social competence serves to, in effect, validate a measure of intellectual subnormality.
3) Many authorities believe that, regardless of degree of intellectual subnormality, a person should not be labeled as mentally retarded if he is able to conduct himself satisfactorily in the community. The label causes derogatory connotations and may become a self-fulfilling prophecy as the retarded and their instructors, relatives, and other associates gauge their expectations to the level expected of a retarded person.

Leland (1973, p. 99) concluded that the elements of adaptive behavior:

> . . . become a much more important measure of the individual's ability to be tolerated within his own community group than the I.Q. measures of intelligence. We recognize that adaptation is also a matter of social definition; but, since it is related more to tolerance of behavior, evaluation of the individual who is "different," who is not coping successfully, it is a better guide to those individuals who might eventually benefit from the title of "mentally retarded" than the I.Q. score, which does not give us the necessary information.

Silverstein (1970, p. 221) provided a requiem for intelligence tests in stating:

> The direction of future developments in this area is not yet clear, but of one thing the reviewer is sure: the last chapter on the measurement of intelligence in the field of mental retardation has not yet been written.

Utilization of Adaptive Behavior Scales

As the emphasis shifted from low intelligence as the sole criterion to the combined measure of sub-average intelligence and impairment in adaptive bahavior in defining mental retardation, greater emphasis has been placed on the development of adaptive behavior scales. Friendlander

(1972, p. 1) commented:

> The task for assessment is to identify as specifically as possible the nature and degree of handicap and the domains of residual competence in order that assistive intervention may be mobilized to attempt to overcome the disability.

Results reported in several studies indicate the viability of adaptive behavior scales in fulfilling the requirements outlined by Friendlander.

Clarke and Clarke (1973, p. 23) identified the four main functions of assessment. They are:

> 1. To describe the individual as he is at a particular point in time, upon intellectual, social, emotional, educational or other variables with reference to a normative or contrast population.
> 2. To predict the individual's probable status at later points in time.
> 3. To provide a behavioural profile of assets and deficits as a starting point for remedial programmes.
> 4. To provide an objective means of checking progress of an individual or a group.

They further pointed out that:

> These categories of assessment in mental subnormality are intimately related to the services society provides, and thus to the demands for different types of information made upon the psychologist. If, for one reason or another, only custodial care is offered and no attempts at remediation, then assessment will only be concerned with the establishment of a clear borderline, related to the amount of provision, the estimated demands and the degree of handicap. In such a situation an individual intelligence test and an assessment of social competence will be essentail. If, on the other hand, an adequate remedial service becomes available, then assessment becomes a starting point for action and a means for evaluating its results.

Kauffman and Payne (1975, p. 95) stated that:

> Problems in adaptive behavior are characterized, as intelectual retardation is, into four degrees of severity - mild, moderate, severe, and profound. Gorssman (1973) noted that if more precise instruments were available for the measurement of adaptive behavior, mild subadaptive behavior would be set at minus two standard deviations from the main. moderate would be minus three standard deviations, severe would be minus four, and profound would be minus five.

> Grossman (1973) acknowledged the difficulty of measuring adaptive behavior and emphasized that 'Measures of adaptive behavior cannot be administered directly in offices, but must be determined on the basis of a series of observations in many places over considerable periods of time. . . The Vineland Social Maturity Scale (Doll, 1965) is one good device for obtaining adaptive behavior information.

Kauffman and Payne (1975, p. 96) described the Vineland Social Maturity Scale as follows:

> The Vineland Social Maturity Scale was first formulated in 1935. After further standardization, a second form was developed and revised manual published. The scale was developed in the Traning School at Vineland, New Jersey, by Dr. Edgar A. Doll. A comprehensive presentation of the scale was accomplished in the publication 'Measurement of Social Competence' (Doll, 1953). The major objective of the scale is to provide a means of measuring the social maturity or social competence of individuals . . . The scale is not based on direct observation of performance, nor does it use so-called "standardized test situations". The scale actually employs a method of report rather than a method of examination or observation. The scale actually employs a method of report rather than a method of examination or observation. The examiner by using specified interviewing techniques, obtains information about the subject from a person or persons intimately familiar with the subject, e.g., parent, teacher, attendant. The scoring is analogous to the Stanford-Binet ratio procedure. Basal and ceiling ages are established, and a social age (SA) is obtained by adding credits to the basal figure. The SA is then divided by the Life Age (LA is same as chronological age); and the quotient is multiplied by 100, with the product called a Social Quotient (SQ).

Table III, p. 34 provides a categorical designation of the areas which are included in the Vineland.

Ann M. Clarke (1965, p. 61) observed that:

> . . . The Vineland Social Maturity Scale differs from an intelligence test in that it is based on the everyday activities of children from birth to 25, and can be employed in the absence of the subject by interviewing someone who has observed in detail his behavior.

Clarke (1965, p. 62) in quoting Doll stated further that:

> . . . the Social Maturity Scale measures with a considerable degree of accuracy the abilities essential for social adequacy and occupational success..

Table III

Catagorical Designation of Areas
Included in the Vineland

S H G -- self-help general	O -- occupational
S H E -- self-help eating	C -- communication
S H D -- self-help dressing	L -- locomotion
S D -- self-direction	S -- socialization

Pringle (1966, p. 122) assessed the validity of the Vineland Scale and its applicability in Britain. He studied the influence of socio-economic and cultural backgrounds on social development, using 200 children:

> . . . chosen from four areas differing widely in this respect (namely, a rural, a metropolitan, a working class and a professional class area). The age of the children ranged from 6 to 8 years. The scale was applied by the same investigator interviewing each child individually. The parents of 90 children were also seen. Among the major variables in this study were intelligence (Terman Merrill), educational level (standardized reading tests), psoition in family, personal adjustment and parental socio-economic status. The main results showed that there were no differences in average social competence between the children from the four social areas, thought significant differences did exist with regard to intelligence and reading attainment. . .

Gunzberg (1970, p. 296) stated that:

> The Vineland classified people in relation to a scale of normal development and it is thus possible to estimate the width of the gap which separates an individual mentally handicapped person from his normal contemporaries. That gap tends to increase with age because the more advanced social skills require higher mental ability than the mentally handicapped has at his disposal. . .
>
> It is unsatisfactory to confine psychological probing to the comparison of a person's social competence with that of normal people because this usually only confirms knowledge already obtained through an intelligence test. . .

Gunzberg (1970, p. 297) in quoting Cain, Levine and Elzey (1963) continued:

> . . . Comparing social efficiency with the acievements of various age groups of 'normal' children - as in the Vineland Scale - provides no guidance as to what could reasonably be expected. It will thus be necessary to obtain a clear general picture of social achievement levels of mentally handicapped people of various ages and intellectual status in order to evaluate an individual child's or adult's standing in particular aspects of social functioning. . .

Cain and Levine modified Wirtz's Behavior Check List (1954) and developed a scale to evaluate social skills of trainable retarded

children. The scale was designed to assess those skills which enabled the trainable retardate to achieve self-sufficiency and engage in interpersonal relationships with children and adults (Cain, Levine and Elzey, 1964, p. 394).

Cain, Levine and Elzey (1964, p. 394) described the scale in their fashion:

> . . . It consists of 44 items presented in the form of a rating scale with a 4 to 5 descriptive statements (scaled along a continuum of 'least to most') per item.
>
> The items were classified into 4 subscales: Self-Help; Initiative; Social Skills; and Communications. The Self-Help subscale estimates motor skills or manipulative performance; the Initiative subscale measures degree of self-directed behavior; the Social Skills subscale assesses interpersonal relationships with adults and children; and the Communication subscale indicates the degree to which the child can be understood.
>
> This instrument is administered in the same manner as the Vineland Social Maturity Scale. The examiner interviews a person who is presumably quite familiar with the behavioral pattern of the child. He uses the information given by the respondent to check the appropriate descriptive statement for each item.
>
> Interview forms are provided with the test which contain the list of items and scaled descriptive statements for each item. The score given for each item is the number assigned to the appropriate descriptive statement for that item, e.g., if the statement number 3 is selected for item 4 then a score of 3 is assigned to that item. The face of the form contains a box to record raw scores for each subscale which are then converted into percentile scores from tables in the test booklet, graded on the basis of CA (5 through 13). There is also a total raw and percentile 'social competency' score.

Gardner and Giampa (1970, p. 352) reported results from their study that indicated:

> . . . the CLSCS is not a suitable instrument for obtaining information about low-level retarded subjects. Due to the inability of the scale to differentiate within this population, the identification of individual differences is impossible, and the scale provides little information as to possible therapeutic programs for consideration. Though scores from the VSMS were successful in differentiating among residents in the global level of functioning (i.e., social age and social quotient scores) has certain indirect implications, the question of

individual strengths and weaknesses is unanswered. Though the CLSCS provided this in the percentile values for various sub-areas, it was not sufficiently discriminating at this level. While the VSMS was sufficiently discriminating in a global sense, it does not provide information in the specific sub-areas.

Gardner (1970, p. 352-356) developed the Comprehensive Behavior Checklist (CBCL) which:

> . . . is a 100-item behavior checklist developed within behavior modification framework. A total score can be obtained in addition to scores for eight sub-scales: eating, drinking, toileting, locomotion, dressing, undressing, personal hygiene, and communication. Each target behavior is broken down into the component steps which make up the complex behavior, and scoring for each item is simlar to the Vineland. The scale was developed and standardized on severely and profoundly retarded children.

In a comparison of the VSMS, the CLSCS and the CBCL, Gardner (1970, p. 356) stated that:

> . . . both the CBCL and the VSMS proved to be valuable. Not only were scores normally distributed on both wards, they also provided accurate representations of overall competence for the residents on Ward B. The CBCL has the added advantage of providing sub-scale scores which are necessary for placement and therapeutic programming. Important deficiencies in behavior can be identified and the corrective procedures can be instituted directly from the scale. A furhter advantage of the CBCL over the VSMS is its utility in measuring behavior change. The VSMS is limited to assessing overall changes in behavior and does not identify the more complex components of this process. The seriousness of this limitaiton can be noted by considering the problem of evaluating change in individuals or groups. It is an oversimplification to report that an individual has improved, remained the same, or regressed. Rather, individuals have different patterns of behavior which can be construed as a profile of relative abilities across a wide range of social, emotiona, physical, and intellectual domains . . .

Gardner (1970, p. 356) concluded that:

> Recent development (Balthazar, 1971; Nihira, Foster, Shellhaas, and Leland, 1969) have resulted in the published adaptive behavior scales. These scales differ in two important respects from the instruments studied here. First, adaptive behavior scales. These scales differ in two important respects from the instruments

studied here. First, adaptive behavior scales are by far more comprehensive. The AAMD scales, for example, contain more than 40 sub-domains. The second major difference is that adaptive behavior scales occupy an intermediate level in terms of item exhaustiveness. That is, for an indivisul item the adaptive behavior scales are likely to be more exhaustive than the VSMS and less exhaustive than the CBCL. . .

Silverstein (1971, p. 361) contributed the following critique of the Balthazar Scales of Adaptive Behavior for the Profoundly and Severely Retarded:

> The general purpose of Section I of the Balthazar Scales of Adaptive Behavior (BSAB-I) is indicated by the full title of the publication: Balthazar Scales of Adaptive Behavior for the Profoundly and Severely Mentally Retarded: A System for Program Evaluation and Development. Section I: The Scales of Functional Independence . . . .
>
> Three separate and distinct scales - Eating, Dressing, and Toileting - make up BSAB-I. . .
>
> As a psychometric instrument, BSAB-I is rather curious. Each of the three scales represents a different method of data gathering - naturalistic observation (Eating), test asministration (Dressing), and structured interviews of ward personnel (Toileting) - but no rationale is offered for these differences. The method of scoring also differs for the three scales, and in the reviewer's opinion, is unnecessarily complicated for Eating and Toilting. Further, three independent normative groups were apparently used, so there are no data on possible interrelationships among the scales.
>
> As a means of focusing the attention of institutional staff members on specific behaviors of individual residents and leading them to think in programmatic terms, BSAB-I may have merit. Whether it is any better for this purpose than other available measures of adaptive behavior is a question for empirical reasearch.

Although reliable and precise measures of adaptive behavior are in great demand, the development of an adequate evaluation instrument was delayed by the limited knowledge regarding the fundamental parameters of the retardate's social coping behavior, especially with the brighter retardate, and by limited information regarding the fundamental demands imposed upon him by the social environment.

Nihira, Foster, Shellhaas, and Leland (1969) established a rating scale to measure adaptive behavior. Their scale was developed as an outgrowth of a three year project funded by the National Institute of Mental Health. The investigators surveyed the existing behavior checklists and adaptive behavior measures used in Great Britain and the United States. Nihira, Foster and Specer (1968, p. 623) compiled a preliminary behavior checklist which consisted of 325 specific behaviors representing the following 10 behavior domains:

> . . . (I) Independent Functioning, (II) Physical Development, (III) Economic Activity, (IV) Number and Time Concept, (v) Occupation [Domestic], (VI) Language Development, (VII) Self-Direction, (VIII) Occupation [General], (IX) Socialization, and (X) Social Responsibility.

In the Manual on Terminology and Classification in Mental Retardation (1973, p. 19) the American Association on Mental Deficiency (AAMD) Adaptive Behavior Scales (ABS) were described.

> The AAMD Adaptive Behavior Scale provides scores that measure a number of separate aspects of adaptive, as well as maladaptive, behavior . . . For younter children, the adaptive behavior level is determined by a composite of measures that include the degree of self-sufficiency, sensory-motor development, language development, and socialization. For older children and adults, the adaptive behavior level is determined by the same composite of measures augmented by measures of domestic skill, vocational potential, and responsibility.

Miller (1972, p. 37) in his critique of the ABS described it thus:

> The ABS is a set of 111 items covering 24 areas of social and personal behavior for use in evaluating effectiveness in coping with environmental demands. The scales were designed to facilitate the classification of mentally retarded and emotionally disturbed persons based on the way in which the individual maintains personal independence and meets social expectations. The ABS is applicable to males and females and can be applied to all levels of mental retardation and to all ages beginning with age 3.
> . . . The scales should facilitate much-needed research in social learning and social management and should throw more

> more light on the relationship between intelligence and social skill. For example, correlations betwen the scale scores and I.Q. are not provided, but examination of the means suggests that the scales are most useful for children under 12 and for those at the extreme lower levels of intelligence. After 12, except for those of the lowest level of intelligence, the scales seem to provide essentially the same information as the I.Q.

Nihira and Shallhaas (1970, p. 14-15), found that the results of their study of adaptive behavior suggested that:

> . . . the A.B. Scale provides the means for observing and describing an individual's resources and limitations, from various skills in personal independence to the various manifestations of social and personal maladaptation.

Nihira and Shellhaas (1970, p. 14) encouraged potential users of the ABS to "evaluate the scale's practical validity with different criteria or retardates' adaptive performance under varying environmental situations, and to avoid over-simplification of the concept of adaptive behavior." The authors also stated:

> While the purpose of a behavior rating scale is to provide a relatively objective description of the individual's resources and limitations, such behavior descriptions must be interpreted in the light of the demands and requirements imposed upon him in his anticipated environment in which the type of critical demands and requirements have been delineated . . . .

Foster and Nihira (1969, p. 401-403) pinpointed the limitations of existing scales prior the developing their Adaptive Behavior Checklist. They said that:

> An analysis of reasons given by parents for institutionalizing their retarded children (Shellhaas, 1966) and a critical-incidents study of inappropriate behavior in special education classes, day-care centers, and on the institution cottage or ward (Nihira, 1967) indicated that our items, as well as those of other scales, were inadequate because entire problem areas had been ignored. The check list underwent extensive revision to correct the omissions.
>
> The modified form of the AB Check List (Form 3) consists of two major parts. Part I has 10 domains and is essentially the same as the preliminary form. Part II of the check list

contains 12 domains.

Rather than treat adaptive behavior as MI (Measured Intelligence) or IQ has been treated in the past, it was felt that we must constantly maintain an awareness of the complexity of the decision making processes and should not be tempted to over-simplify by giving the user a single score which is assumed to correlate with any given criterion. We should make every effort to determine what areas of behavior discriminate among retardates so that we can accout, as much as possible for the complex individual differences which are related to the to the decisions being made (Foster, 1968, p. 49).

Many of the items developed for this Adaptive Behavior Checklist have been included in the Adaptive Behavior Scales.

Nihira, Foster and Spencer (1968, p. 622-624) identified two axioms which are assumed in attempting to measure adaptive behavior:

> . . . First, every person has a unique pattern of adaptive behavior. A person cannot be unique without differing from others. His adaptive behavior is, of course, similar in some respect to others, but considering his whole pattern of behaviors, it is different from all others.
>
> The second axiom is that there are no abosolute standards for adaptive behavior. If there is a score of zero on adaptive behavior, it is the result of an artificial scale along which each individaul can be placed in relation to other individuals. Thus, the frame of reference for the study of adaptive behavior must be derived from a comparison of different individuals. This means that an objective definition of adaptive behavior must be stated in terms of meaningful properties that commonly can be observed among most of the retarded population.

Grossman concurred with Nihira and Foster's recommendation for a definitive definition of adaptive behavior. Grossman (1973, p. 19) expressed his views on adaptive behavior as follows:

> As with intellectual functioning, adaptive behavior is categorized in terms of degrees of impairment. These degrees are scaled from mild (but apparent and significant) negative deviation from population norms in adaptive behavior to almost complete lack of adaptation at the extreme lower limit. If more precise instruments were available for the measurement Adaptive Behavior, and general norms could be precisely stipulate, the upper limit could presumably be set at minus two standard deviations from the population mean.
>
> There are currently available a number of tests such as the AAMD Adaptive Behavior Scale, the Vineland Social Maturity

> Scale, and other similar scales which measure aspects of behavior contributing to total adaptation . . However, most of the scales developed for use with the retarded have major limitations . . . .

According to Semmel (1972, p. 38):

> The reliability of the ABS cannot be determined objectively since no relability coefficents are provided. . .
> Only scattered studies of validity are available. The authors report that factor analysis of the doamin scores has delineated three major dimenstions: 'Personal Independence', 'Social Maladaptation' and 'Personal Maladaptation'. Empirical estimates of concurrent and predictive validity are not provided, although there is evidence from a few studies indicating that the scale may possess satisfacotry concurrent validity. However, as stated by the test authors, 'The concurrent validty of the scale must rest upon what further research reveals regarding its concurrent and prognostic behavioral correlates, and its relationship to other psychological variables.' Comparisons of the ABS with the Vineland Social Maturity Scale, the Cain-Levine Social Competency Scale, and the Stanford-Binet or WISC would be particularly meaningfull criterion measures is definitely required. . . The ABS appears to have considerabel promise as a test of adaptive behavior of mentally retarded individuals. Potentially, the scale should prove valuable as a diagnostic tool within the area of mental retardation and in reaching decisions regarding possible institutionalization. Furthermore, accuate assessment of deficiencies in adaptive behavior may lead to the development of effective training programs and remediation adapted to the needs of the individual. However, the available norms should be regarded as tentative and require extension and revision on a more respresntative sample. The authors indicate that efforts are currently geared toward the assessment of non-institutionalized retardates as well as emotionally disturbed individuals. In addition, further revisions and refinements are planned. Continuing research on empirical reliability and validity with different samples and criteria is necessary. Effort should also be devoted toward improving interscore reliability of the various adaptive behavior domains for the adult form. The authors indicate that current studies are being carried out 'to determine test-retest reliability and longitudianl behavior change under treatment, to compare ratings by different raters under different situations, to carry out typological analysis of the individual's score patterns and further factor analysis of the scale at the item level.' . . . The scale should be considered an experimental instrument with limited utility for non-institutionalized populations pending further standardization work.

Congdon (1973, p. 20), in his review of the ABS reported that:

> . . . Clinically, the Adaptive Behavior Scales have seen wide use in institutions, but to date there is relatively little published research on them. Experience at Lincoln State School with the ABS, both during the standardization and following publication, has suggested some difficulty with the scales for certain uses in their present form. Broad application of them has yielded suggestions for change in format. Use for the specialized population of the profoundly retarded suggested, that for the profoundly retarded, many items in the total scales were not used. The Adaptive Behavior Scales were therefore modified for functional and research purposes.

The Progress Assessment Charts provide yet another measure for assessing adaptive behavior. The charts were originally developed by Gunzburg in 1963, according to Shakespeare (1970, p. 529) they:

> . . . describe how much better or worse the handicapped person is in relation to other handicapped people.
>
> The chart is an inventory of 120 skills graded according to difficulty and divided into four areas of social competence: Self-help, Communication, Socialization and Occupation and the items are scored Pass or Fail by someone who knows the child well . . . .
>
> Whether a child passes or fails an item is recorded on charts which have a figure consisting of concetric circles and divided into quadrants. The easiest items appear in the centre of the circle, the hardest on the outside, and each quadrant represents one area of social competence.

Tufenacht (1975) and his staff, in their review of the 1973 revised Progressive Assessment Charts concluded that:

> There is some question as to how the sequences of items on the PAC were developed since, to us they did not seem to relfect the order of normal maturational sequence. The guidelines for teaching purposes cannot be as clearly defined in the PAC as in the MBSAS. . . The items in the PAC appear highly subjective. While there is an accompanying manual, some items would continue to be left to interpretation of the individual adminstering the test.

The report of Rufenacht and his stff provides evidence that suggests additional research and study is required to determine the applicability and utility of the PAC in Michgan residential centers for the mentally retarded.

According to the Minnesota State Planning Agency for Developmental Disability Programs (1975, p. 13) its'

> Evaluation of current behavioral assessment devices indicated they were unsuitable for defining programs based on client needs because of one or more of the following limitations:
> 1. Multiple behaviors are assessed in single items
> 2. Multiple scoring methods are used both between and within tests.
> 3. The tests yield a global score which cannot be used for planning individual programs
> 4. The items are not arranged on a developmental continuum
> 5. Recording is based chiefly on hindsight and recall rather than direct observation
> 6. Many items are cast in the form of "not" or negative behavior rather than on-going, positive perforamnce, yielding problems of reliability validity.
> 7. Most items are not evaluative, for they do not include the condtions under which the behavior occurs or the criteria to be used in evaluation.
>
> Because of these limitations and the absence of significant behaviors in all assessment devices reviewed, no currently available assessment device could be recommended.

Summary of Chapter II

In Chapter II definitions of mental retardation, several intelligence tests, and checkslists of adaptive behavior were reviewed. Their strengths and weaknesses were noted. One definition of mental retardation used low I.Q. as the sole criterion. The other definition combined significnatly sub-average general intellectual functioning and impairment in adaptive behavior origininating during the developmental period.

Review of the literature clearly indicates that a combination of rating scales and standardized tasts will provide the most useful assessment method for the subnormal individual. However, at the present, most intelligence tests still fail to provide information which can be positively harnessed to the design of a program of education or habilitation. Also, there is a need for precise, objective measures to

assess adaptive behavior so that judgments can be made on development, continuation, modification or termination of program plans.

Additionally, many of the current instruments were identified as lacking in both validity and reliability for use with certain populations, having out-dated or inappropriate norms, difficult scoring systems, and inclusion of items that are difficult to score due to imprecision and lack of clarity.

Chapter III

METHODS, DESIGN, AND PROCEDURES

The purpose of the study was to determine both the validity of the Michigan Behavioral Skills Assessment Scale (MBSAS) and the reliability of attendant ratings of resident adaptive behavior. Both measures of validity and reliability were necessary if attendants are to be employed as part of the programming base to determine client programs and service needs through the use of the scale.

Statement of Purpose

The problem is the absence of an instrument for the assessment of adaptive behavior in Michigan's institutions which has been approved by the Department of Mental Health, and which has been tested for validity and reliability.

Significance of the Study

The study will provide information relative to the utility and applicability of the MBSAS in assessing adaptive behavior. It will also assist the Michigan Department of Mental Health in deciding whether the MBSAS should be adopted on a uniform basis for use in the residential facilities for the mentally retarded.

METHODS

Sample

a. Residents

The original sample consisted of sixty subjects who were

residents at Colwater State Home and Training School, Coldwater, Michigan. Ten of the subjects selected were disqualified beacuse they were placed out of the institution during the course of the study or their records were incomplete. As a result, only fifty residents were used in the study. The subjects were selected for the study using random sampling with replacement.(Kerlinger, 1917, p. 118).

Chronological ages of the subjects ranged from 7 to 61 years, with a mean of 23.6 at the time of initial assessment. Thirty-four males and sixteen females comprised the study group. Table IV, p. 48 describes the characteristics of the subjects used in the study.

b. Attendants

The sixty-four attendants used in the study were selected by the Unit Program Directors at Coldwater State Home and Training School. Attendants rated those residents whom they knew best. Some attendants rated as many as eight, while others rated only one. Attendants chosen represented both the A.M. and P.M. shifts. The attendants participating in the study were employed for one year or more by the institution received training in the use of the MBSAS, consisted of thirty-six females and twenty-eight males, and ranged in age from twenty to sixty-five years. Table V, p. 50 shows the characteristics of the attendant raters.

c. Setting

The study took place at Coldwater State Home and Training School, located in Coldwater, Michigan. Coldwater State Home

Table IV

Characteristics of Subjects

Program Unit	N	CA Mean	CA Range	M	F
Adult Act & Care	19	32.6	22-61	14	5
Growth & Dev.	10	16.0	10-21	9	1
Infirmary	9	12.9	7-19	3	6
Voc. Trning.	4	33.0	23-45	4	0
Phys. Handicapped	3	21.7	11-37	2	1
Trainable/Ed.	3	15.3	14-17	1	2
Beh. Trtmnt.	1	28		1	0
Med. Surg.	1	17		0	1
Totals	50	23.66	7-61	34	16

1) The Adult Activity and Care Residential Program is designed to serve mentally retarded adults from 21 years of age and older.

2) The Growth and Development Residential Program includes those individuals from 7 to 21 years of age generally functioning at the severe and profound level of retardation.

3) The Infirmary Residential Program serves individuals 7 years of age and above with chronic diseases and diabilities which require that they have medical surveillance, physical exercise, physical therapy and nursing care on a 24-hour day basis.

4) The Vocational Training Residential Program is designed for the service of the young adult retarded age 15 and above who is capable of benefiting from a program of job, and job related, skill training.

5) The Physically Handicapped Residential Program serves individuals with specific physical defects which require that they have special care, treatment, and training.

6) Trainable/Educable - Individuals in this sub-program are age 6 to 21 years of age and functioning at the highest level of the state home and training school population

Table IV (cont'd)

7) The Behavioral Treatment Service serves individuals that have behaviors that restrict them from inclusion into regular training and educational programs.

8) Medical-Surgical Programs serve individuals of all ages with specific medical disabilities which require that they be given special medical or surgical services.

Table V

Characteristics of Attendant Raters

Age	M	F	Years of Service 1-5	6-10	11-20+
20-29	6	3	5	4	0
30-39	4	10	2	12	0
40-49	7	8	3	6	6
50-59	7	12	1	10	8
60-60	4	3	0	4	3
Totals	28	36			

N = 64

and Training School is a large state facility (about 1,400 residents) for the mentally retarded. The insitution provides both residental and out-patient services for individuals with varying degrees of mental and physical handicaps. The majority of those identified as profoundly or severely retarded reside in the Adult Activity and Care Units. Table VI, p. 52 provides a list of the program classifications and the number of residents in each.

Instrumentation

Definitions:

Category - Seven statements in the Michigan Behavioral Skills Assessment Scale (MBSAS) which describe a skill. Statements are arranged in order of complexity so that the first statement describes no functioning in that skill and the seventh statement describes functional use.

Item - A particular statement in a category.

Item Level - The same level of statement in all categories for example, item level three would describe all third position statements in the twenty-six categories.

Michigan Behavioral Skills Assessment Scale

The Michigan Behavioral Skills Assessment Scale (MBSAS) is a scale to be used in evaluating the level of adaptive behavior exhibited by clients of Agencies for the Mentally Retarded in Michigan. The scale is comprised of twenty-six categories. Specific classes of items are concerned with self-help, occupational activities, communications, self-direction and social participation. The complete scale can be found in Appendix A. Items included in each of the twenty-six categories are intended to be matuationally and developmentally sequenced according to task performance.

Table VI

Residential Programs Available
at
Coldwater State Home and Training School

Total by Institution

AGE	NO. OF RESIDENTS
0 - 5	17
6 - 12	168
13 - 17	271
18 - 20	123
21 - 44	750
45 - 64	174
65 & over	27
TOTAL	1,530

Total by Program

Age	Behav-Treat.	Phys. Hndcpt.	Pre-School	Growth-Develop.	Adult Act.	Trnble/Educable	Educable	Voc. Trng.	Infirm.	Total
0 - 5			4						11	15
6 - 12	2	13	2	55		22			68	166
13 - 17	12	25		85	1	78		3	63	267
18 - 20	8	11		49		26		10	14	118
21 - 44	43	76		29	386	7	1	158	45	745
45 - 64		13			135			14	11	173
65 & over		3			16			1	7	27
	65	141	6	218	538	137	1	186	219	1,511

Invalid or Unknown Program Codes	+19
GRAND TOTAL	1,530

Michigan Behavioral Skills Assessment Scale Manual

The Michigan Behavioral Skills Assessment Manual provides a detailed description of the scale and how it is used and scored. The manual was developed to establish uniform procedures for implementing the MBSAS. See Appendix B.

Scoring

The Michigan Behavorial Skills Assessment Scale is scored on a one to seven bais for each of the twenty-six categories with one representing the lowest level of performance in any category and seven the highest.

The Michigan Behavioral Skills Assessment Scale was not originally designed to obtain a total score. The primary intent was to obtain an individual resident profile in each of the twenty-six classifications. Total scores can be obtained, however, by adding each of the twenty-six categories.

Design

The study used on data on fifty residents who were rated by sixty-four attendant raters on the Michigan Behavioral Skills Assessment SCale (MBSAS), and a panel of researchers who are involved in research on adaptive behavior.

The MBSAS had been reviewed by a committee of superintendents to determine if the instrument contained an adequate sampling of the potential questions from a defined universe of items to assess adaptive behavior.

The attendant raters were paired and asked to observe and record their observations of the residents' adaptive behavior in each of the

twenty-six classification categories. The results of their observations were recorded on Optical Scanning Scoring sheets. A copy is included in Appendix C. Each pair of ratings was analyzed to establish the degree of inter-rater reliability. The greater the agreement between observers, the higher the reliability.

The panel of researchers was sent a copy of the MBSAS and asked to respond to a questionnaire which accompanied the scale. The panel was asked to check the validity by making judgments of each item in the scale and making suggestions which will serve as a basis for planning further revisions in the MBSAS.

Procedures

The author requested written permission from Dale Barrett, M.D., Superintendent at Coldwater State Home and Training School in March 1974, to conduct the proposed study at that facility. A copy of the letter of request can be found in Appendix D. Dr. Barrett approved the project and assigned Dr. Louise Kent, Director of Programs, as his designate to coordinate the research activities at the facility.

Dr. Kent and the investigator met in November, 1974, to devise the framework for implementing the research project. The investigator and Dr. Kent delineated, and agreed to carry out, the following responsibilities so that the project could be fully implemented in February, 1975. The responsibilities that each assumed were:

Researcher

1. Consulted with Ms. Provitt and Mr. David Rosen (Superintendent, Macomb-Oakland Regional Center, Frasier, Michigan, and past

president of American Association of Mental Deficiency) to obtain names of individuals who were or had been active in studying or developing instruments to assess adaptive behavior.

2. Developed jointly, with the investigator's doctoral committee chairman, a questionnaire to be sent to the researchers selected to participate as an advisory team to check the validity of teh MBSAS and make suggestions for further revisions. A copy of the questionnaire can be found in Appendix D.

3. Received a computer print-out with the case record numbers of all residents at Coldwater State Home and Training School and selected sixty, using a random sampling with resplacemtn process. Case record numbers were forwarded to Dr. Kent.

4. Received profile information on the residents selected. Identification inforamtion received on each resident included age, program classification (growth and development, Adult Activity Care, Vocational training, etc.), and race.

5. Attended a meeting with Dr. Kent and Unit Program Directors in January, 1975.

Dr. Kent

1. Provided Dr. Barrett with reports on the status of the project.

2. Provided the researcher with a computerized list of all resident case numbers at Coldwater.

3. Received case numbers of the sixty residents selected by the investigator.

4. Returned to the investigator the profile on the sixty residents selected.

5. Met with unit program directors at Coldwater to discuss the research project.

6. Coordinated in-service training for unit program directors regarding the use of MBSAS.

7. Selected attendants from A.M. and P.M. shifts with unit directors.

8. Planned and coordinated, with unit director, the in-service training of attendants selected to participate in the study.

9. Scheduled a meeting with the investigator and unit program directors in January, 1975, to discuss the strategies for implementing the research project.

After Dr. Kent and the researcher had fulfilled their respective responsibilities, a meeting was held on January 17, 1975, with the unit program directors. The agenda of the meeting is presented in Appendix E.

Validity

As has been previously mentioned, a committee of superintendents was selected and given the responsibility of reviewing and recommending a rating scale to the Director of the Department of Mental Health. The work of this committee is cited in Chapter I. The committee of superintendents served as the content validity control group for the MBSAS as presented by Dr. Roll and the investigator. Changes and modifications in structure and content by the committee prior to the implementation of the research plan served to increase content validity. A list of the names and addresses of the individuals who served on the Superintendent's Committee appears in Appendix F. Also, the individuals who served as a panel of researchers involved in the study of adaptive behavior were sent an introductory letter explaining the purpose of the study, a

questionnaire to complete and return, and copies of the MBSAS and the MBSAS Manual.

The responses to the questionnaire are to be used to compile a list of recommendations of changes in the MBSAS for consideration by appropriate state officials.

The researchers were selected because of their experience in conducting research in the area of adaptive behavior. Names of researchers were provided by Mr. David Rosen, Director of the Macomb-Oakland Regional Center, acting Superintendent of the Oakdale Center for Developmental Disabilities, and past president of the American Association for Mental Deficiency and the National Association of Superintendents of Public Residential Facilities for the Mentally Retarded, and by Miss Evelyn Provitt, Program and Planning Consultant, Department of Mental Health, who provided the names of individuals who have had an active interest in the assessment of mentally retarded individuals. A list of the names and addresses of the researchers if provided in Appendix H.

Reliability

Paired sets of attendants from the A. M. and P.M. shifts rated fifty randomly selected residents on each of the twenty-six categories included on the MBSAS. The ratings took place between February 1, 1975, through February 14, 1975. Each resident was rated by two attendants, one from the day shift and one from the afternoon shift, who were familiar with the resident. Attendants were given the names of residents they were to rate and a sheet of standardized instructions. After reading the instructions, attendants completed the MBSAS on the residents they were familiar within the sample. To avoid fatigue, no attendant

rated more than five residents at one session. At all sessions, a staff person was available to answer questions and to insure the independence of the data. Scores were recorded on optical scanning sheets, a copy of which appears in Appendix H. Paired rater scores for the total scale were analyzed. Additionally, the combined A. M. and P. M. shift scores for the total scale were studied.

Data Analysis

The content validity of the MBSAS, prepared by the Superintendent's Committee, was compared to the analysis of items by the panel of researchers on adaptive behavior.

Pair attendant ratings on the twenty-six categories of the MBSAS were correlated and analyzed using Pearson Product Moment Correlation. The Pearson Product Moment Correlation is used when the scale of measurement is either the interval or the ratio type, Ary, Jacobs and Razavieh (1972, p.116). Therefore, the Pearson Product Moment Correlation was used rather than other correlation techniques.

Chapter IV

RESULTS

The results reported in this chapter are divided into two parts: content validity data provided by a panel of researchers active in the study of adaptive behavior, and reliability coefficients obtained from sixty-four attendant raters.

Content Validity

Ten of the twelve researchers who were selected to examine the content validity of the Michigan Behavioral Skills Profile Scale returned completed questionnaires. The percentage rate of return was eighty-three percent. The items contained in the questionnaire were:

Question #1: Do the twenty-six items listed cover the essential areas necessary to assess adaptive behavior of institutionalized mentally retarded residents? (a) What additional items do you recommend? Why? (b) What items should be deleted? Why?

Question #2: Are the seven response choices for each item developmentally ordered? (a) What changes in the order do you recommend? Why?

Question #3: Do the instructors clearly state what is expected from the respondent? (a) What changes, if any, do you recommend in the instructions? Why?

Question #4. Additional comments about the scale which would be helpful in further refining content validity.

Eight of the ten researchers (80%) responded that the MBSAS did not possess the essential areas necessary to assess adaptive behavior. Two of the researchers (20%) concluded that the categories contained in the MBSAS were sufficient if the residents were not to be trained for community living.

Question #1a - All ten researchers responded to question 1a, despite the fact that two of the researchers responded 'yes' to question 1. Thirteen additional items or concepts were recommended by the panel. Seven of the ten researchers (70%) listed community mobility as the most critical area missing from the scale. Six of the ten (60%) identified receptive language as the next most important item which was missing. The least mentioned item reported was object permanence (10%). Table 7, p. 61, displays the items, frequency of response, and percentages of the researchers who recommended the items.

Several viewpoints were expressed by the researchers as to the necessity of adding additional items. The majority of the researchers (60%) stated that additional items should cover the three major areas of basic self-care and self-help, personal responsibility, and social responsibility. Items addressed to assess community skills would reflect a program designed towards deinstitutionalization. Items suggested to identify problem behavior were considered important to identify maladaptive behavior. Several investigators considered the elimination of maladaptive behavior a more important

Table VII

Items Recommended by Panel of Researchers

Item Identified as Missing	Frequency of Response	Percentage of Response
Community Mobility	7	70%
Receptive Language	6	60%
Recognition of Safety Signs	5	50%
Problem Behavior	5	50%
Socialization	5	50%
Responsibility	4	40%
Recreational Skills	4	40%
Visual Motor	4	40%
Communication	3	30%
Non-verbal Expressive Language	3	30%
Use of Phone	2	20%
Non-amulatory Mobility	2	20%
Object Concept and Permanence	1	10%

item than adaptive behavior in the deinstitutionalization process.

Four researchers recommended that more emphasis be placed on the non-verbal abilities of the retarded. They listed receptive language as an essential element for conveying the communicative competence of the retarded individual.

Question #1b - None of the researchers suggested that items be deleted from the scale. One of the researchers who responded yes to question 1 did state however that purchase of food was not an appropriate item if the major focus of the program was geared towards continued institutionalization.

Question #2 - Eight of the ten researchers agreed that the items were developmentally sequenced. Two of the researchers suggested the following for consideration if changes were to be made in the scale.

(1) Fine Motor: Item 3. Picks up and holds nearby objects, using whole hand. Item 4. Reaches for, holds and releases objects voluntarily. There seems to be no difference here; one resident could do both i.e., 4 is not more developmentally advanced than 3.

(2) Ambulation: Item 2. Creeps or crawls but does not pull self to standing position for 30 seconds, otherwise one who holds it for 5 seconds would be equal to 30 seconds. Ambulation - good.

(3) Rolling - good

(4) Sitting - good

(5) Use of eating utensils - good

(6) Drinking. Item 7 - How important is this? Might not some items on use of a straw be more important in terms of programming?

(7) Pre-self Feeding Skills. Items 5-6 - Change soft foods to 5

and coarse foods to 6.

(8) Toothbrushing. Items 5-6 seem to be minor differences. Why not make 7- Uses dental floss.

(9) Washing and Bathing - good

(10) Toilet Training - Bladder. Item 6 - In an institution this rarely occurs. Item 1 - Sounds like the fault of the resident when, really just faulty training program. Item 2 - Why toilet "scheduling" training? Eliminate this and go directly to training.

(11) Toilet Training - Bowel. Same as above.

(12) Grooming - very general.

(13) Dressing

(17) Language-Expressive. Item 3 - Appropriately expresses self via gestures, or other forms of non-verbal communication, to indicate wants. Not necessarily less advanced than 4 - 7.

(20) Purchasing and Budgeting. Saving and buying are two different skills. The jump from 5 to 7 is very large.

(21) Safety Skills. Eliminate #2. Include recognition of at least 5 safety signs between current items 5 and 6.

(26) Socialization. Item 7 - Program Directors don't even do this.

Question #3.

The ten researchers concurred that the instructions provided for the MBSAS were clearly stated. No changes in wording, format or structure were submitted by the researchers.

Question #4.

To increase the overall applicability and validity of the MBSAS the researchers proposed that several parameters be considered.

Before the scale is to be utilized, the parameters of age, sex, level of retardation, and the environmental design be specified. It was also recommended that a coding system, as depicted in Figure 1, be considered. The coding system would help to identify more succinctly, the functional level of the individuals being assessed.

Two researchers expressed serious concern over the emphasis placed on self-help skills as opposed to cognitive skills. The omission of cognitive skills, according to one researcher, might be the single greatest fault of the scale.

The majority of the researchers expressed the view that with minor modifications, the scale would be extremely useful as a measurement of adaptive behavior of mentally retarded individuals.

Two of the ten researchers suggested the necessity of reviewing the copyright of the AAMD Adaptive Behavior Scale as it relates to the MBSAS.

Figure I

Proposed Coding System for the MBSAS

Check One

Numerical Code:

1	2	3	4
☐	☐	☐	☐
Never	Rarely	Usually	Always

Check One

when appropriate

N.A. = not physically able ☐

Type of Assistance: physical ☐

verbal ☐

Responds: physically ☐

verbally ☐

Reliability

The paired attendant rater responses on the total scale and the combined A.M. and P.M. shifts scores on each were analyzed using the Pearson Product Moment Correlation. The data is presented in these two methods to highlight the correlation scores between raters and the shifts.

Paired attendant ratings

The paired attendant ratings on the total scale were computed. Total scores were obtained for each rater by adding the category scores (26) on a one to seven basis. The paired total scores over the twenty-six categories provided reliability coefficients for each paired set of attendant raters. The paired attendant ratings for the total scale ranged from a correlation coefficient of .61 to 1.00. The combined correlation for all attendant raters for the twenty-six categories was .84. Table VIII, p. 68 displays the range of correlations and frequencies of the range for the paired attendant raters.

Correlation Coefficients Between A.M. and P.M. Shifts

The combined total scores by category were computed for all A.M. assigned attendants and correlated with the combined category scores for P.M. attendants. This analysis demonstrated the degree of shift reliability on each category of the MBSAS. The results indicated that the two shifts were able to reach the highest inter-shift agreement on Category 2 - Ambulation. They obtained a correlation coefficient of .91 on this category. The lowest correlation was .55 for Category 24 - Care of Personal Possessions. The combined A.M. and P.M. shift correlation for the twenty-six categories of the MBSAS was .76. Table

IX, p. 69 displays the combined A.M. and P.M. shift correlations by category.

Mean Scores for A.M. and P.M. Shifts

Mean scores on the total scale reported by the two shifts ranged from 1.20 to 6.02. Mean shift scores indicate the average score given to each category of the MBSAS by all members of the A.M. and P.M. shifts. The A.M. shift reported its lowest mean score (1.28) on Category 19, Food Preparation. The highest mean score (6.00) reported by the A.M. shift was for Category 4, Sitting.

The lowest P.M. shift mean score (1.20) was assigned to Category 19, Food Preparation. The highest P.M. shift mean score was accorded Category 4, Sitting. Table XII, p. p. 75, displays the correlation, mean, variance, and standard deviation scores between the A.M. and P.M. shifts.

Mean Scores of Paired Attendant Raters

Mean scores on the total scale recorded by the paired raters, ranged from 1.11 to 6.73. Mean scores for each rater were ascertained by summing the category scores and dividing by the total number of paired raters. As was previously mentioned, some attendants rated as many as eight residents, while others may have rated only one resident. As a result, the total frequency scores are increased from thirty-six instead of thirty-two. In addition to the mean scores for the sixty-four attendant raters, variance and standard deviation socres were computed. Tabls X, p. 72 lists the correlations, means, variances and standard deviation scores for the paired raters.

Table VIII

Range of Inter-Rater
Correlations and Frequency of Rater Range

Range of Paired-Rater Correlation		Frequency of Correlation in Range
0 to .61	=	6
.70 to .79	=	7
.80 to .89	=	12
.90 to .99	=	10
1.0 ---	=	1
	TOTAL	36

Table IX

Category Correlations Between A.M. and P.M. Shifts

Category		Correlation
I.	Fine Motor Coordination (Hand Manipulation)	.71
II.	Ambulation	.91
III.	Rolling	.71
IV.	Sitting	.83
V.	Use of Eating Utensils	.75
VI.	Drinking	.68
VII.	Pre-Self Feeding Skills	.74
VIII.	Tooth Brushing and Oral Care	.64
IX.	Washing and Bathing	.84
X.	Toilet Training: Bladder Control	.73
XI.	Toilet Training: Bowel Control	.81
XII.	Grooming	.68
XIII.	Dressing	.90
XIV.	Undressing	.86
XV.	Money Recognition	.87
XVI.	Time Concept	.78
XVII.	Language-Expressive	.85
XVIII.	Language-Receptive	.84
XIX.	Food Preparation	.84

Table IX (cont'd)

Category		Correlation
XX.	Purchasing and Budgeting	.68
XXI.	Safety Skills	.67
XXII.	Pre-Vocational Skills	.71
XXIII.	Table Setting and Clearing	.85
XXIV.	Care of Personal Possessions	.55
XXV.	Domestic Skills Cleaning/Bed Making/Laundry	.81
XXVI.	Socialization	.64

19, Food Preparation. The highest P.M. shift mean score was accorded Category 4, Sitting. Table X, p. 72, displays the correlation, mean, variance, and standard deviation scores between the A.M. and P.M. shifts.

Mean Scores of Paired Attendant Raters

Mean scores on the total scale recorded by the paired raters, ranged from 1.11 to 6.73. Mean scores for each rater were ascertained by summing the category scores and dividing by the total number of categories. Table XI, p. 74, shows the mean score frequencies for the sixty-four paired raters. As was previously mentioned, some attendants rated as many as eight residents, while others may have rated only one resident. As a result, the total frequency scores are increased from thirty-six instead of thirty-two. In addition to the mean scores for the sixty-four attendant raters, variance and standard deviation scores were computed. Table XII, p. 75, list the correlations, means, variances and standard deviation scores for the paired raters.

Table X

Category Correlations, Means, Variances, and Standard Deviation Scores Between A.M. & P.M. Shifts

	Correlations	Means	Variances	Standard Deviations
1.	.71	5.22	3.88	1.97
		4.92	4.40	2.09
2.	.91	5.40	4.24	2.06
		5.32	4.50	2.12
3.	.71	5.90	4.05	2.01
		5.84	3.93	1.98
4.	.83	6.00	3.55	1.88
		6.02	3.36	1.83
5.	.75	3.20	2.73	1.65
		3.48	3.92	1.98
6.	.68	5.02	3.28	1.81
		5.08	3.66	1.91
7.	.74	5.88	2.27	1.50
		5.70	2.29	1.51
8.	.64	2.16	3.40	1.84
		2.76	4.92	2.21
9.	.84	2.50	4.37	2.09
		2.96	5.54	2.35
10.	.73	4.44	6.37	2.52
		4.68	6.05	2.46
11.	.81	4.70	6.41	2.53
		4.86	6.16	2.48
12.	.68	2.32	3.97	1.99
		2.64	4.72	2.17
13.	.90	3.80	4.93	2.22
		3.92	4.89	2.21
14.	.86	4.10	5.92	2.43
		4.48	6.00	2.45

Table X (cont'd)

Correlations	Means	Variances	Standard Deviations
15. .87	1.42	.82	.90
	1.38	.73	.85
16. .78	1.82	1.53	1.25
	1.66	1.12	1.06
17. .85	3.02	3.81	1.95
	3.02	4.59	2.14
18. .84	4.68	3.44	1.85
	4.64	3.58	1.89
19. .84	1.28	.77	.88
	1.20	.36	.60
20. .68	1.32	.99	.99
	1.28	.45	.67
21. .67	1.88	2.14	1.46
	2.12	2.88	1.69
22. .71	2.10	2.25	2.50
	1.80	2.51	2.22
23. .85	2.02	2.67	1.63
	1.78	2.70	1.64
24. .55	2.06	2.58	1.60
	1.94	2.22	2.49
25. .81	1.70	2.29	1.51
	1.86	2.77	1.66
26. .64	3.46	2.49	1.58
	3.24	3.16	1.77

Table XI

Mean Score Frequencies for Attendant Raters

Mean	Frequency
1.00 to 1.99	13
2.00 to 2.99	20
3.00 to 3.99	17
4.00 to 4.99	12
5.00 to 5.99	8
6.00 to 6.99	2
TOTAL	72

Table X II

Correlation, Means, Variances, and Standard Deviations for the Paired Attendant Raters

	Correlation	Means	Variances	Standard Deviations
R1.		2.000	2.48	1.57
R2.	.610(1)	1.807	2.24	1.497
R3.		2.30	5.34	2.31
4.	.95 (2)	2.26	4.52	2.12
5.		3.00	4.64	2.15
6.	.89	3.65	4.47	2.11
7.		3.00	5.44	2.33
8.	.92	3.11	6.26	2.50
9.		4.11	4.61	2.14
10.	.83	4.19	6.70	2.58
10.		4.96	4.11	2.02
11.	.83	4.76	6.58	2.56
11.		3.03	5.47	2.34
12.	.97	3.07	5.11	2.26
13.		3.76	5.70	2.38
14.	.79	4.34	6.15	2.48
15.		4.30	5.42	2.32
16.	.78	5.65	3.11	1.76
17.		3.44	5.59	2.36
18.	.81	3.63	6.15	2.48
19.		5.30	3.42	1.84
20.	.76	5.30	3.98	1.99
20.		5.38	3.84	1.96
21.	.72	4.76	5.23	2.28
22.		5.20	3.10	1.76
23.	.86	5.16	2.91	1.70
24.		4.15	5.17	2.27
25.	.89	4.03	4.19	2.04
R26.		5.23	3.30	1.81
22.	1.00	5.23	3.30	1.81
27.		4.30	4.46	2.11
28.	.78	3.84	4.21	2.05
29.		3.88	5.62	2.37
30.	.85	4.76	5.54	2.35
31.		2.11	3.86	1.96
32.	.65	1.46	1.29	1.13
33.		1.34	.63	.79
34.	.75	1.57	.73	.85
35.		1.15	.13	.36
36.	.87	1.19	.16	.40
35.		1.11	.10	.32

Table X II (cont'd)

	Correlation	Means	Variances	Standard Deviations
37.	.62	1.11	.10	.32
35.		2.07	3.35	1.83
38.	.93	2.11	3.54	1.88
39.		3.19	5.20	2.28
40.	.94	3.26	5.16	2.27
41.		2.30	4.46	2.11
42.	.94	2.30	4.46	2.11
41.		1.19	.24	.49
43.	.67	1.57	1.77	1.33
39.		1.30	.38	.61
44.	.71	1.30	.46	.67
45.		2.03	3.55	1.88
46.	.96	1.76	2.98	1.72
R47.		6.73	.36	.60
48.	.63	6.23	1.46	1.21
49.		3.34	4.95	2.22
50.	.81	4.15	7.25	2.69
51.		2.94	5.58	2.36
52.	.65	2.75	5.56	2.35
53.		2.46	3.69	1.92
54.	.92	2.19	4.08	2.02
55.		3.50	6.05	2.46
56.	.90	2.96	4.23	2.05
57.		2.73	3.64	1.90
58.	.87	3.30	4.46	2.11
59.		3.57	7.29	2.70
60.	.92	2.96	5.55	2.35
61.		2.65	4.19	2.04
62.	.83	2.75	4.30	2.07
63.		2.15	2.69	1.64
64.	.89	2.26	3.72	1.92

Chapter V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

This study was an initial attempt to determine the content validity of the Michigan Behavioral Skills Assessment Scale (MBSAS) and the inter-rater reliability of attendants' scoring of residents' performances on the MBSAS. The MBSAS is used primarily as a tool to provide a descriptive profile of mentally retarded individuals in twenty-six adaptive behavior areas.

The dramatic changes in the field of mental retardation occurring in the past decade reflect a more enlightened societal attitude which encompasses the attitudes of professionals working in the field, as well as the general population. Whether the more liberal attitudes of the general public have resulted from the improved skills and more effective efforts of the professionals, or whether in fact the professional efforts have been in response to the pressures and demands of citizens groups is a moot point. It will suffice to note that the courts have ordered that severely and profoundly retarded individuals share with others the rights to due process, the right to treatment and appropriate education, and the right to live in an environment which is conducive to the development of whatever potentials they possess.

As programs and services for the mentally retarded have expanded and costs have increased, the demand for accountability

has become a major force. Parents, legislators, and courts have all demanded that those involved in the delivery of service demonstrate the effectiveness of programs and procedures. Administrative and clinical personnel working in the field of mental retardation have responded by defining objectives in terms of behavioral change, but have found the effort to generate data from the measurement of this change frustrated by the absence of acceptable procedures or appropriate instruments for such measurement. Underlying this difficulty is the nature of the condition with which they are concerned. Mental retardation is a behavior-descriptive term, and is applied to persons whose developmental behavior changes very little within the time frames normally used for budgetary and other administrative purposes.

The study reviewed two definitions of mental retardation. One definition used low intellectual functioning as the sole criterion for mental retardation. The determination was based upon an individual's performance on a standarized intelligence test. The literature reviewed in the study clearly indicates that the assessment of intellectual functioning can be made only through tests or procedures that reflect a comprehensive theory of intelligence, a condition not met by the most frequently used tests.

The other definition in the study combined significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior. Adaptive behavior refers to the basic ability of an individual to meet the social and architectual demands in his environment. Adaptive behavior addresses the three domains of maturation, learning, and social competence.

There are currently available a number of adaptive behavior scales which measure aspects of behavior contributing to total adaptation. However, most of the scales developed for use with the retarded have major limitations.

A panel of researchers who studied the content validity of the Michigan Behavioral Skills Assessment Scale concluded that the scale did not possess all of the essential areas necessary to assess adaptive behavior. However, the majority of researchers concluded that with minor modifications, the MBSAS would be extremely useful as a measurement of adaptive behavior of mentally retarded individuals.

Results ascertained from the inter-rater reliability of attendants' ratings of residents performance on the MBSAS were very reliable. The paired ratings ranged from a correlation coefficient of .61 to 1.00. The combined correlation for all attendant raters for the twenty-six categories of the MBSAS was .84.

Combined total scores by category were computed for all A.M. assigned attendants and correlated with the combined category scores for all P.M. attendants. The correlation coefficient for the two shifts was .76.

Results of the investigation suggest that, (1) additional work on the content validity of the MBSAS is required, and (2) that attendants are reliable raters of adaptive behavior. The scale can be used, (1) to assist in determining individual resident needs, (2) to plan program remediation, (3) as a research instrument, (4) to plan for staff, facility and budget needs, (5) as a periodic assessment tool to determine individual status, (6) as a parent

interview form, (7) to show correlation with other tests, and (8) to assist in modifying the environment to meet the needs of the residents.

CONCLUSIONS AND IMPLICATIONS

Data pertaining to the content validity of the Michigan Behavioral Skills Assessment Scale reported by the panel of researchers clearly indicates that additional items are required to increase its content. The thirteen items recommended by the panel provide examples of the types of items that must be considered. The emphasis of the panel on items that pertain to community mobility represents a prevalent philosophy focused on normalization.

The principle of normalization suggests making available to the mentally retarded, patterns and conditions of everyday life which are as close as possible to the norms and patterns of the mainstream of society (Nirje, 1969, p. 181).

Past practices which segregated the retarded from the larger society are no longer acceptable. Therefore, it is essential that retarded individuals have an opportunity to participate in experiences geared towards community involvement. If the experiences are to be provided, then items that measure the degree of behavioral change are required.

The frequency of the recommendation to include receptive language on the MBSAS is either an oversight by the panel of researchers or suggests that the existing items comprising category 18, Language-Receptive are inadequate, need to be modified, or need to be rearranged. The non-verbal behavior of mentally retarded

individuals is recognized by program planners as a critical aspect of language development. However, it is difficult at best, if individual differences are taken in account, to establish developmental norms for this category. To the end information is needed about the extent, the significance, and the origin of individual differences. All the qualitative information available at present concerns normal development, and therefore is of only limited usefulness as regards individual differences among profoundly and severely retarded individuals.

The majority of the remaining items recommended by the panel are items that are not presently covered adequately or represented on the scale. The addition of the items (except object permanence) would provide relevant descriptive data on individual residents. Several researchers requested that items to assess cognitive skills be added. The items could be added to the scale, but many cognitive processes might be better assessed by available standardized intelligence tests in conjunction with the MBSAS.

Eight of the ten researchers agreed that the items comprising each category of the MBSAS were developmentally sequenced. Two researchers pointed out, however, that modifications and additions should be made in specific areas. In accepting the viewpoints stated by all panel members, it appears appropriate to state that the MBSAS measures very satisfactorily what it is intended to measure. As originally stated, the MBSAS was designed primarily to assess levels of behavior performance of institutionalized mentally retarded individuals, and particularly, individuals in the profound and severe ranges.

It is also evident that certain item statements within categories should be stated in more precise, measureable terminology. By doing so would add clarity, reduce imprecision, and allow for increased demonstration of effectiveness of programs and procedures.

The panel members all concurred that the instructions provided for users of the MBSAS were clearly stated. No changes in wording, format or structure were recommended. This suggests that no immediate revisions in the instructions will be required.

It was also recommended that, (1) the parameters of age, sex, level of retardation, and environmental design be specified, and (2) a coding system be considered that would enhance both the utility and applicability of the scale. To incorporate the proposed coding system would provide additional information indicating the frequency of a specific behavior, the conditions under which it occurred, and whether the individuals made physical or verbal response to complete the performance task.

The addition of the parameters of age, sex, level of retardation, and environmental design are very important elements. Prior to their inclusion in the MBSAS, the problem of having to establish norms of development with considerable generality, and the need to take individual differences in account would have to be addressed. This would result in a tremendous expenditure of money and staff resources if the task were to be conducted properly.

Two of the ten researchers suggested that the copyright of the AAMD Adaptive Behavior Scale (ABS) as it related to the MBSAS be reviewed. Their suggestion is well intentioned, but has no merit. All scales since Doll developed the "Vineland" possess many categories or

items that are similar. Even the ABS borrowed items from other scales. With the plethora of existing scales, there is no question that similarities exist in content, structure, format, and purpose.

Information obtained from the panel of researchers may not be sufficient to draw definite conclusions about the Michigan Behavioral Skills Assessment Scale, but does provide enough evidence to indicate that additional items and changes in format and structure are required to increase the content validity of the scale.

The data obtained from the study pertaining to inter-rater reliability is somewhat difficult to interpret. In examining the results of the inter-rater reliability, it appears that attendants do not have to have clinical training in diagnostic procedures in order to make contributions to the assessment process. Rather, the attendant needs to organize that information he already possesses about the resident, and have confidence in his ability to make a contribution.

Attendants have one major advantage over other observers; they see the resident perform on many different occasions as he attempts quite varied tasks, and as he deals with individuals known personally to the observer. Each attendant has the advantage of many separate observations upon which to base his judgments. The use of attendants as observers also increases the reliability and reduction of bias as is usually found when multiple judges are utilized.

The high inter-rater reliability coefficients reported by the attendants is comparable, and exceeds in many instances, those reported by Gardner and Giampi (1971, p. 354) in their study. The investigator and Dan Christian (evaluation consultant, Mt. Pleasant

State Home and Training School) discovered several factors that may affect variance of rater performances on the MBSAS. These factors are, (1) the fact that raters generally do not receive adequate training prior to assessment, and (2) environmental influences. All items of the MBSAS are composed of one or more of the following components: topography, frequency and stimulus control. It may be that raters will make more correct discrimination when particular combinations of these components are used. Also, while many of the items are operationalized, some are less so and may contribute to lower agreement.

Environmental influences play a significant role in determining resident behavior and performance. Category 19, Food Preparation on the MBSAS indicates a fair level of skill in preparing food. Many residents in state residential centers do not have the opportunity to prepare, or learn how to prepare food. Similarly, many items specify that the resident exhibit a specific behavior independently. This independence may not be possible where staff is used to consistently manage and provide direction for the resident's behavior.

Although research and special programming for profoundly and severely retarded has been somewhat limited, there is enough evidence to indicate that proper programming for this group produces a high degree of success. Further, if the mandate for an individualized habilitative program is to be fulfilled, there must be a prior, appropriate, and adequate assessment of the individual's adaptive behavior status. Research clearly indicates that a combination of rating scales and standardized tests will provide the best mothod to fulfill the mandate.

It is recognized that large residential institutions for the retarded may eventually be eliminated. However, recognizing that even with the development of community facilities, an institutional population of substantial size will probably be with us for some time to come, therefore, the quality of care of retardates remaining in institutions must be improved.

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APPENDIX A

MICHIGAN BEHAVIORAL SKILLS ASSESSMENT SCALE

MICHIGAN DEPARTMENT OF MENTAL HEALTH

DMH 1824 9/74

PRESENT LEVEL

The present functional level is to be completed for the resident by the residential care staff, over all shifts, who know the resident best. Any difference of opinion with regard to functional level of a client should be resolved by the unit or program director as designated by the Superintendent.

For each of the following behaviors, rate the usual highest present performance level of the resident, not what you, or other staff, think might be the capability or potential of the resident.

(1) FINE MOTOR COORDINATION (HAND MANIPULATION)

EXAMPLE:

7. Handles and manipulates all sorts of objects easily, appropriately and independently.
6. Picks up small objects with thumb and index finger.
5. Transfers objects from hand to hand.
4. Reaches for, holds and releases objects voluntarily.
3. Picks up and holds nearby objects, using whole hand.
2. Holds objects if put in hand.
1. Does not hold objects even if put in hand.

Note that each statement is arranged in order of difficulty: 7,6,5,4, 3,2,1. Select the one statement which best describes the most difficult task the resident can usually manage. In the above example, the person being evaluated can reach for, hold and release objects voluntarily which is item number 4, but cannot transfer an object from hand to hand which is item number 5. Therefore, item number 4 is selected in the example above. Item number 4 is then recorded on the sheets titled Response Summary I and Response Summary II in column One titled "Present Functional Level" to the right of the words, "1. Fine Motor Coordination (Hand Manipulation)".

ONE YEAR GOAL AND LONG RANGE OBJECTIVE

In using the MBSA in establishing One Year Goals and Long Range Objectives the assessments are to be made by professional staff members. These could be Program Directors, Psychologists or other professionals as designated by the Superintendent. The MBSA assessments should reflect the conclusions of the interdisciplinary staffing, or staff conferences, at which the assessments for specific clients are discussed. The responses to the MBSA with respect to One Year Goals and Long Range Objectives are to be recorded on the sheet labled "Response Summary I" under Columns two and three titled "One Year Goal" and "Long Range Objective".

(1) FINE MOTOR COORDINATION (HAND MANIPULATION)

7. Handles and manipulates all sorts of objects easily, appropriately and independently.
6. Picks up small objects with thumb and index finger.
5. Transfers objects from hand to hand.
4. Reaches for, holds and releases objects voluntarily.
3. Picks up and holds nearby objects, using whole hand.
2. Holds objects if put in hand.
1. Does not hold objects even if put in hand.

(2) AMBULATION

7. Walks easily and independently with a well coordinated gait.
6. Walks independently but awkwardly.
5. Walks independently, but is apt to fall.
4. Walks with one hand held, or with other support.
3. Pulls self to standing position and cruises sideways, hanging on for support; attempts to walk when fully supported.
2. Creeps or crawls but does not pull self to standing position.
1. Does not walk, creep or crawl.

(3) ROLLING

7. Rolls from back to abdomen, independently and easily.
6. Rolls from back to abdomen, but with difficulty.
5. Rolls from abdomen to back.
4. Rolls to either side from abdomen.
3. Raises head and chest and supports self on forearms.
2. Raises head when lying on abdomen.
1. Appears completely immobile; does not raise head when lying on abdomen.

(4) SITTING

7. Easily comes to sitting position independently; sits alone indefinitely and engages in normal activities without losing balance or falling.
6. Sits unsupported and steady; erects self to upright position after leaning forward. Easily regains sitting position after falling.
5. Sits unsupported but is unsteady and loses balance easily; tries and fails to regain upright position without help.
4. Sits with some support, trunk erect, head steady. Without support, balances momentarily, topples easily, does not regain sitting position without assistance.
3. Holds head erect and steady; sits with support.
2. Holds head erects, but unsteadily, when body is supported.
1. Unable to lift head when placed on abdomen.

(5) USE OF EATING UTENSILS

7. Feeds self adequately using knife, fork and spoon appropriately and easily, without help.
6. Uses fork and spoon without help, but needs help with knife for cutting.
5. Uses fork and spoon without help, but uses knife for spreading only.
4. Uses a fork and spoon with little spilling and without help, but not a knife.
3. Uses a spoon without help - little spilling.
2. Finger feeds* without help; uses spoon with considerable spilling, but needs help.
1. Does not feed self; must be fed by others.

* "Finger foods" are such foods as toast, crackers, carrot sticks, apples pieces, cubed bologna.

(6) DRINKING

7. Drinks liquids from soft drink bottle or can, independently.
6. Drinks neatly, without spilling, holding glass in one hand.**
5. Drinks neatly, without spilling, using both hands.*
4. Drinks from cup or glass unassisted, but with considerable spilling.*
3. Drinks from cup or glass, with assistance, but without choking or gulping.
2. Sips and swallows from cup or glass, one sip at a time, with assistance.
1. Does not drink from cup or glass even with assistance.

** Glass 1/2 full to 3/4 full.
* Cup or glass 1/4 to 1/2 full.

(7) PRE-SELF FEEDING SKILLS

7. Bites off, chews, and swallows solid foods without difficulty.
6. Bites off, chews, and swallows pieces of soft foods, but with some difficulty.
5. Chews and swallows coarsely textured food, with considerable difficulty.
4. Uses tongue to move pureed foods to back of mouth and swallows food.
3. Sucks and swallows fluids.
2. Does not suck but swallows fluid placed in mouth.
1. Does not suck or swallow.

(8) TOOTH BRUSHING AND ORAL CARE

7. Takes care of total oral health needs independently and adequately at appropriate intervals without reminding.
6. Takes care of total oral health needs independently and adequately with occasional reminding.
5. Brushes teeth adequately, independently and easily, but requires frequent reminding.
4. Brushes teeth adequately, without help, but with much difficulty; requires supervision.
3. Brushes teeth adequately with help, and requires assistance in applying dentifrice on brush.
2. Attempts to help self in brushing teeth but requires much assistance.
1. Completely dependent on staff for care of teeth and mouth.

(9) WASHING AND BATHING

7. Washes hands and face; bathes self in tub or shower independently and at appropriate times.
6. Washes self completely in tub or shower without assistance, but requires supervision.
5. Washes hands and face without help, but requires some assistance in bath or shower.
4. Washes hands and face without help, but requires considerable help in bath or shower.
3. Actively helps to wash hands and face, but requires some assistance.
2. Attempts to help wash hands and face, but requires total assistance.
1. Makes no attempt to help with own washing or bathing; needs total assistance.

(10) TOILET TRAINING: BLADDER CONTROL

7. Remains dry day and night independently; no accidents.
6. Remains dry day and night but must to taken to toilet during the night on a scheduled basis.
5. Remains dry during the day without reminding.
4. Remains dry during the day if reminded.
3. Remains dry during the day if taken to the toilet on a scheduled basis.
2. Wet during the day but is participating in active toilet scheduling training.
1. Lacks bladder control. No response to training efforts.

(11) TOILET TRAINING: BOWEL CONTROL

7. Control bowel movements independently; never soils.
6. Generally controls bowels without reminding; i.e., does not have soiling accidents more than once a week.
5. Needs regular reminding to use toilet but generally controls; i.e., does not have soiling accidents more often than once a week.
4. Has soiling accidents but no more than once a week when placed on toilet at regular intervals; makes toilet needs known.
3. Has soiling accidents about every two to three days when placed on toilet at regular intervals.
2. Beginning to respond to bowel control training when placed on toilet at regular intervals, but has frequent soiling accidents.
1. Lacks bowel control; no response to training efforts.

(12) GROOMING*

7. Ususally is independently and appropriately groomed without reminding.
6. Usually is independently and appropriately groomed with occasional reminders.
5. Grooms self independently but requires some supervision and direction.
4. Grooms self but requires some supervision and assistance.
3. Actively helps self in grooming but requires much assistance.
2. Attempts to help self in meeting grooming needs but requires total assistance.
1. Completely dependent on staff for grooming needs.

* To tend carefully as to person and dress; to keep oneself neat and orderly in appearance.

MICHIGAN BEHAVIORAL SKILLS ASSESSMENT

(13) DRESSING

7. Dresses self completely, independently and appropriately, including belts, buttons, snaps, hooks, zippers and shoelaces.
6. Dresses self completely but seeks occasional assistance with some articles of clothing, including belts, buttons, snaps, hooks, zippers, shoes and front-back discrimination.
5. Dresses almost completely by self, but needs reminding or help with such operations as hooking, buttoning, zipping, lacing and tying shoes, getting shoes on the right feet, front-back discrimination.
4. Puts on some articles of clothing, including pull-on clothes without assistance, but requires assistance to completion of tasks.
3. Needs some assistance with all aspects of dressing, including pull-on clothes.
2. Actively attempts to clothe self, but requires total assistance.
1. Does not attempt to help at all with dressing; needs total help.

(14) UNDRESSING

7. Undresses self completely and easily, including belts, buttons, snaps, hooks, zippers, and shoelaces.
6. Undresses self completely and independently but seeks occasional assistance with belts, buttons, snaps, hooks, zippers or shoelaces.
5. Undresses self completely but needs help with some or all of the following: buttons, hooks, zippers, and shoelaces.
4. Removes some clothes, including pull-ons, but requires assistance with completion of undressing.
3. Attempts to remove some articles of clothing but requires considerable assistance even with pull-on clothes.
2. Actively attempts to help in taking off clothes, but requires total assistance to completely undress.
1. Does not attempt to help self in undressing; needs total help.

(15) MONEY RECOGNITION

7. Correctly makes change to $5.00, using a combination of coins and paper currency; knows the function of and how to secure a money order.
6. Correctly makes change to $5.00, using a combination of coins and paper currency.
5. Correctly makes change to $1.00.
4. Identifies coins by cent value.
3. Recognizes coins by name but does not identify cent value.
2. Trades money for goods but does not identify coins by name.
1. Does not recognize that money has exchange or trade value.

(16) TIME CONCEPT

7. Is independently "on time" for scheduled appointments, for work, or for classes.
6. Tells time correctly by clock or watch.
5. Tells time correctly to the nearest hour.
4. Knows days of the week. Knows his own schedule or sequence of activities for specific days.
3. Understands concepts of yesterday, today, and tomorrow.
2. Distinguishes between morning and night.
1. Has no apparent understanding of time.

(17) LANGUAGE-EXPRESSIVE

7. Relates experiences; has a reasonable vocabulary; asks meaningful questions, and is easily understood.
6. Carries on meaningful conversation, but speech is difficult to understand.
5. Speaks meaningfully in short sentences, but is difficult to understand.
4. Expresses self in single words, or simple phrases.
3. Appropriately expresses self via gestures, or other forms of non-verbal communication, to indicate wants.
2. Responds by imitating words or gestures, or uses varied forms of vocalization which do not convey meaning - "ba-ba", da-da, ga-ga"; babbles.
1. Has no expressive speech; may make throaty sounds but does not imitate words or gestures.

(18) LANGUAGE-RECEPTIVE

7. Follows 2-step commands such as "Go to the laundry and get me two towels."
6. Follows simple commands such as "Put your coat on the chair."
5. Points to body parts named such as eyes, ears, nose, arm, etc.
4. Follows commands such as "Stand up," "Come here," "Sit down.".
3. Follows commands such as "Stand up," "Come here," "Sit down" only if accompanied with gestures.
2. Smiles, laughs, or looks at the speaker when talked to.
1. No observed response to speech or gestures.

(19) FOOD PREPARATION

7. Without supervision, plans and cooks a complete dinner including salad, beverage, a cooked or baked vegetable, meat, and dessert.
6. Prepares foods requiring moderately complicated cooking ability, such as boiling or frying eggs, peeling and boiling potatoes, baking "TV" frozen dinners, opening and heating canned foods, without supervision.
5. Prepares simple foods requiring cooking or baking, without supervision.
4. Prepares simple foods that require mixing, cooking, and/or baking, with supervision.
3. Prepares simple foods requiring no cooking or baking, without supervision.
2. Prepares simple foods, requiring no cooking, with supervision, e.g., cereals, sandwiches, reconstituted beverages.
1. Unable to prepare simple foods, even with assistance.

(20) PURCHASING AND BUDGETING

7. Prepares a simple budget with supervision, shops for groceries, meals or clothing, appropriately, without supervision.
6. Saves money up to five dollars for a particular purpose through appropriate planning.
5. Shops for personal needs costing to five dollars, without supervision.
4. Shops for personal needs costing from one to five dollars, with supervision.
3. Shops for personal needs costing about one dollar, with some supervision.
2. Shops for personal needs with close supervision.
1. Does not shop* even with assistance or supervision.

* Shop: Examines, selects and buys merchandise.

(21) SAFETY SKILLS

7. Shows concern for safety of others. Reports or calls attention to hazards.
6. Is responsible for own safety.
5. Behaves safely at street intersections and crosses streets appropriately using traffic signals if necessary.
4. Recognizes danger of moving cars in street and will not proceed into street unaccompanied.
3. Recognizes and will not touch hazardous objects.
2. Will not step off of high places.
1. No awareness of hazards and obstacles. Needs constant supervision.

(22) PRE-VOCATIONAL SKILLS

7. Performs complex tasks satisfactorily, within a stipulated time period and without supervision.
6. Performs complex tasks, as in (5) below, satisfactorily and with minimal supervision.
5. Performs complex tasks such as assembling nuts, washers and bolts in a prescribed pattern and stipulated time period, but with some difficulty, and requires supervision.
4. Performs simple tasks, as in (2) below, satisfactorily without supervision.
3. Performs simple tasks as in (2) below, slowly but satisfactorily with minimal supervision.
2. Performs simple tasks such as sorting two dissimilar objects but with great difficulty, and requires constant supervision.
1. Performs no tasks at all, even with assistance.

(23) TABLE SETTING AND CLEARING

7. Correctly places on table all eating and serving utensils for a setting of four persons, without help.
6. Correctly places on table all eating and serving utensils including napkins, for a setting of four persons, with minimal supervision.
5. Places own plate, glass or cup and silverware in proper positions as learned, without help.
4. Clears table of all eating and serving utensils, and cleans surface, with minimal supervision.
3. Places on table in proper position own silverware, plate and cup, under close supervision.
2. Clears table of own dishes and silverware, under close supervision.
1. Does not set or clear table, even with help.

(24) CARE OF PERSONAL POSSESSIONS

7. Cares for and stores all personal possessions appropriately and independently; recognizes repair needs and seeks appropriate assistance with repairs.
6. Cares for most personal possessions in a careful manner and stores them appropriately without being reminded.
5. Takes care of most personal possessions in an appropriate manner, if reminded.
4. Attempts to care for personal possessions in an appropriate manner, with assistance
3. Recognizes own personal possessions, protects them from others, but does not care for them appropriately.
2. Aware of possessing some items, but does not care for or protect them from others.
1. Unaware of having any personal possessions, unaware of concept of ownership.

(25) DOMESTIC SKILLS CLEANING/BED MAKING/LAUNDRY

7. Performs complicated tasks without help, and with minimal supervision, such as washing dishes, using washer and dryer for clothing, making a bed correctly, cleaning and maintaining room appropriately without being reminded.
6. Performs complicated tasks such as making a bed or loading a dishwasher, with assistance or close supervision.
5. Performs moderately complicated tasks with minimal supervision and without assistance.
4. Performs moderately complicated tasks such as dusting furniture, folding clothing or towels, with assistance or close supervision.
3. Performs simple tasks such as sorting flatware or sweeping with minimal supervision and without assistance.
2. Helps in simple tasks such as sorting flatware or sweeping but needs assistance or continuous supervision.
1. Does not help with simplest domestic tasks, even with assistance.

(26) SOCIALIZATION

7. Initiates or helps organize group activities requiring cooperative efforts with others; demonstrates leadership abilities.
6. Participates in group activities without encouragement.
5. Typically interacts with one or two other individuals, but needs to be encouraged to participate in group activities.
4. Initiates interactions with others, but usually keeps to himself.
3. Interacts when approached by others.
2. Observes other people in the environment.
1. Pays no attention to others in the environment.

MICHIGAN BEHAVIORAL SKILLS ASSESSMENT
RESPONSE SUMMARY I (FOR FACILITY USE)

ADDRESSOGRAPH PLATE OR CLIENT'S NAME AND CASE NUMBER

AGENCY CODE	EVALUATOR NUMBER	DATE OF EVALUATION (MO. DA. YR.)	CHRONOLOGICAL AGE (YRS. MOS.)

	PRESENT FUNCTIONAL LEVEL	ONE YEAR GOAL	LONG RANGE OBJECTIVE
1. FINE MOTOR COORDINATION (HAND MANIPULATION)			
2. AMBULATION			
3. ROLLING			
4. SITTING			
5. FEEDING			
6. DRINKING			
7. PRE-SELF FEEDING SKILLS			
8. TOOTHBRUSHING AND ORAL CARE			
9. WASHING AND BATHING			
10. TOILETING TRAINING: BLADDER CONTROL			
11. TOILET TRAINING: BOWEL CONTROL			
12. GROOMING			
13. DRESSING			
14. UNDRESSING			
15. MONEY RECOGNITION			
16. TIME CONCEPTS			
17. LANGUAGE - EXPRESSIVE			
18. LANGUAGE - RECEPTIVE			
19. FOOD PREPARATION			
20. PURCHASING AND BUDGETING			
21. SAFETY SKILLS			
22. PRE-VOCATIONAL SKILLS			
23. TABLE SETTING AND CLEARING			
24. CARE OF PERSONAL POSSESSIONS			
25. DOMESTIC SKILLS - CLEANING/BED-MAKING/LAUNDRY			
26. SOCIALIZATION			

DMH 1822

MICHIGAN BEHAVIORAL SKILLS ASSESSMENT
RESPONSE SUMMARY II

ADDRESSOGRAPH PLATE OR CLIENT'S NAME AND CASE NUMBER

AGENCY CODE	EVALUATOR NUMBER	DATE OF EVALUATION (MO. DA. YR.)	CHRONOLOGICAL AGE (YRS. MOS.)

		PRESENT FUNCTIONAL LEVEL	NORMATIVE FUNCTIONAL LEVEL	IMPAIRMENT LEVEL
1.	FINE MOTOR COORDINATION (HAND MANIPULATION)			
2.	AMBULATION			
3.	ROLLING			
4.	SITTING			
5.	FEEDING			
6.	DRINKING			
7.	PRE-SELF FEEDING SKILLS			
8.	TOOTHBRUSHING AND ORAL CARE			
9.	WASHING AND BATHING			
10.	TOILETING TRAINING: BLADDER CONTROL			
11.	TOILET TRAINING: BOWEL CONTROL			
12.	GROOMING			
13.	DRESSING			
14.	UNDRESSING			
15.	MONEY RECOGNITION			
16.	TIME CONCEPTS			
17.	LANGUAGE - EXPRESSIVE			
18.	LANGUAGE - RECEPTIVE			
19.	FOOD PREPARATION			
20.	PURCHASING AND BUDGETING			
21.	SAFETY SKILLS			
22.	PRE-VOCATIONAL SKILLS			
23.	TABLE SETTING AND CLEARING			
24.	CARE OF PERSONAL POSSESSIONS			
25.	DOMESTIC SKILLS - CLEANING/BED-MAKING/LAUNDRY			
26.	SOCIALIZATION			

DMH 1823

KEYPUNCH FORMAT

RECORD - TITLE MICHIGAN BEHAVIORAL SKILLS ASSESSMENT			PROGRAM NO.	PAGE
CHAR		FIELD DESCRIPTION	CHAR		FIELD DESCRIPTION	SPECIAL INSTRUCTIONS
1	1	CARD CODE	41		ITEM 1	
2	M		42		2	
3	B		43		3	
4	S		44		4	
5	P		45		5	
6		BLANK	46		6	
7		AGENCY NUMBER	47		7	
8			48		8	
9			49		9	
10		EVALUATOR NUMBER	50		10	
11			51		11	
12			52		12	
13		MO. DATE OF EVALUATION	53		13	
14			54		14	
15		DA.	55		15	
16			56		16	
17		YR.	57		17	
18			58		18	
19		YRS. CHRONOLOGICAL AGE OF CLIENT	59		19	
20			60		20	
21		MOS.	61		21	
22			62		22	
23		CLIENT'S NAME	63		23	
24			64		24	
25			65		25	
26			66		26	
27			67		BLANK	
28			68			
29			69			
30			70			
31			71			
32			72			
33			73			
34			74			
35		BLANK	75			
36		CASE NUMBER	76			
37			77			
38			78			
39			79			
40			80			

DATE: 9/3/74

RECORD NO: 1MBSP

RECORD LENGTH: 80

SOURCE DOCUMENT: MICHIGAN BEHAVIORAL SKILLS ASSESSMENT RESPONSE SUMMARY I. (PRESENT FUNCTIONAL LEVEL)

COLOR OF CARDS: _____

VOLUME OF DATA: _____

KEYPUNCH FORMAT

RECORD - TITLE MICHIGAN BEHAVIORAL SKILLS ASSESSMENT			PROGRAM NO.		PAGE			
CHAR		FIELD DESCRIPTION	CHAR		FIELD DESCRIPTION	SPECIAL INSTRUCTIONS
1	I	CARD CODE	41		ITEM 1	
2	N		42		2	
3	B		43		3	
4	S		44		4	
5	P		45		5	
6		BLANK	46		6	
7		AGENCY NUMBER	47		7	
8			48		8	
9			49		9	
10		EVALUATOR NUMBER	50		10	
11			51		11	
12			52		12	
13		MO. DATE OF EVALUATION	53		13	
14			54		14	
15		DA.	55		15	
16			56		16	
17		YR.	57		17	
18			58		18	
19		YRS. CHRONOLOGICAL AGE OF CLIENT	59		19	
20			60		20	
21		MOS.	61		21	
22			62		22	
23		CLIENT'S NAME	63		23	
24			64		24	
25			65		25	
26			66		26	
27			67		BLANK	
28			68			
29			69			
30			70			
31			71			
32			72			
33			73			
34			74			
35		BLANK	75			
36		CASE NUMBER	76			
37			77			
38			78			
39			79			
40			80			

DATE: 9/3/74

RECORD NO: IMBSP

RECORD LENGTH: 80

SOURCE DOCUMENT: MICHIGAN BEHAVIORAL SKILLS ASSESSMENT RESPONSE SUMMARY I (PRESENT FUNCTIONAL LEVEL)

COLOR OF CARDS: _____

VOLUME OF DATA: _____

Date_____

Total Score_____

MICHIGAN - DMR/MR

BEHAVIORAL SKILLS PROFILE

Evaluator_____

Addressograph

Domain	Neuromuscular Control				Feeding			Toileting & Self-Hygiene				Dressing			Communications				Social Skills									
Category Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
7																											
6																											
5																											
4																											
3																											
2																											
1																											
Level	Sitting	Rolling	Ambulation	Fine motor coordination/hand manipulation	Use of eating utensils	Drinking	Pre- self-feeding skills	Toothbrushing and oral care	Washing and bathing	Toilet training-bladder control	Toilet training-bowel control	Grooming	Dressing	Undressing	Money recognition	Time concepts	Language-Expressive	Language-Receptive	Food preparation	Purchasing and Budgeting	Safety skills	Pre- vocational skills	Table setting and clearing	Care of personal possessions	Domestic skills-cleaning/bedmaking/laundry	Socialization	

APPENDIX B

MICHIGAN BEHAVIORAL SKILLS ASSESSMENT MANUAL

MICHIGAN DEPARTMENT OF MENTAL HEALTH

9/74

TABLE OF CONTENTS

INTRODUCTION

The Michigan Behavioral Skills Assessment (MBSA) is a scale to be used in evaluating the level of adaptive behavior exibited by clients of Agencies for the Mentally Retarded in Michigan. It is expected that MBSA will be useful in viewing the effectiveness, with respect to changes in the functional level of clients, of the programs now being employed, and the degree to which changes in programming effect at a macro level the clients involved in that program. Because of the potential of this tool it is requested that the administration of the scale and the recording of data be done as accurately as possible.

WHAT IS THE MICHIGAN BEHAVIORAL SKILLS ASSESSMENT

The Michigan Behavioral Skills Assessment is a scale for the evaluation of Mentally Retarded inpatients. There are twenty-six key areas in which a client's functional level is assessed. In addition to an assessment of the present functional level of a client, there are also provisions for establishing One Year Goals and Long Range Objectives with respect to the subjects identified on the scale if the Agency finds these goals and objectives useful.

WHO COMPLETES THE SCALE

The MBSA can be viewed as two discrete scales for the purposes of administration. The Present Functional Level (column one of Response Summary I and II) is to be determined by a consensus of the resident care staff members who are in daily contact with the client. Any differences of opinion will be arbitrated by the program or unit director. The One Year Goal and Long Range Objective (columns two and three of Response Summary I) are to be assessed by the professional staff member who is best qualified to make an evaluation with respect to each item as assigned by the Superintendent or his designate. This may also involve consultation between staff members.

WHO IS EVALUATED

The Michigan Behavioral Skills Assessment is to be used in evaluating inpatients of Agencies for the Mentally Retarded.

WHEN ARE CLIENTS ASSESSED

The Michigan Behavioral Skills Assessment must be administered within seven days of:

Admission
Discharge

To assure accurate information with respect to where changes in behavioral levels occur the MBSA should be administered with seven days of:

A movement from one program to another
A movement from one unit to another
A movement from one status to another

For the purpose of reflecting when changes in behavior occur it is desirable to establish an ongoing system for evaluation that would re-evaluate a client:

At anytime that it appears that a significant change in behavior had taken place or at least once a year.

HOW TO COMPLETE RESPONSE SUMMARY I

ADDRESSOGRAPH PLATE OR NAME AND CASE NUMBER.

If Addressograph Plates are used in your agency stamp that information in the box in the upper right hand corner. If Addressograph Plates are not used, write the inpatient's last name first, then first initial and then middle initial. Below that,write the inpatient's five digit case number.

AGENCY NUMBER

This is a three digit number assigned by the Michigan Department of Mental Health, Data Processing Section. It can be obtained from your administrative officer.

EVALUATOR NUMBER

This three digit number is to be assigned to an evaluator by a central person within the agency. It is very important that each evaluator have a number that is different from all others in the agency. In a case where it is necessary to use many opinions in making an evaluation, the number of the program or unit director who is arbitrating any differences of opinion should be registered.

DATE OF EVALUATION

The date an evaluation was completed is to be entered here. All dates should be written with the month first then the day of the month and finally, the year. The date: April 7, 1974, would be written:

0 4	0 7	7 4
mo.	da.	yr.

CHRONOLOGICAL AGE

The age of a client is to be recorded to the nearest month as of the date that the evaluation was completed. If a client was seven years and three months old at the time the evaluation was completed his age would be coded:

0 7	0 3
yrs.	mos.

ITEMS 1 - 26 (PRESENT FUNCTIONAL LEVEL)

In the column titled "Present Functional Level" opposite items 1 - 26 the number (from 1 - 7) should be recorded which represents the clients present functional level.

ITEMS 1 - 26 (ONE YEAR GOAL)

In the One Year Goal column opposite items 1 - 26 the number (from 1 - 7) should be recorded which represents the functional level which is a goal for that client one year from the time of evaluation.

ITEMS 1 - 26 (LONG RANGE OBJECTIVE)

In the Long Range Objective column opposite items 1 - 26 the number (from 1 - 7) should be recorded which represents the functional level which is the highest expected achievement level for that client.

HOW TO COMPLETE RESPONSE SUMMARY II

ADDRESSOGRAPH PLATE OR NAME AND CASE NUMBER

If addressograph plates are used in your agency stamp the information in the box in the upper right hand corner. If addressograph plates are not used, write the inpatient's last name first, then first initial and then middle initial. Below that, write the inpatient's five digit case number.

AGENCY NUMBER

This is a three digit number assigned by the Michigan Department of Mental Health, Data Processing Section. It can be obtained from your administrative officer.

EVALUATOR NUMBER

This three digit number is to be assigned to an evaluator by a central person within the agency. It is very important that each evaluator have a number that is different from all others in the agency. In a case where it is necessary to use many opinions in making an evaluation, the number of the program or unit director who is arbitrating any differences of opinion should be registered.

DATE OF EVALUATION

The date an evaluation was completed is to be entered here. All dates should be written with the month first then the day of the month and finally, the year. The date: April 7, 1974, would be written:

04	07	74
mo	da	yr

CHRONOLOGICAL AGE

The age of a client is to be recorded to the nearest month as of the date that the evaluation was completed. If a client was seven years and three months old at the time the evaluation was completed, his age would be coded:

0	7	0 ; 3
	yrs.	mos.

ITEMS 1 - 26 (PRESENT FUNCTIONAL LEVEL)

In the column titled "Present Functional Level" opposite items 1 - 26 the number (from 1 - 7) should be recorded which represents the clients present functional level.

ITEMS 1 - 26 (NORMATIVE FUNCTIONAL LEVEL)

The column titled "Normative Functional Level" will contain the functional level (from 1-7) that would normally be achieved by a non-retarded individual of the clients age. This information will be completed based on norms adapted to the MBSA by age which will be established and distributed to all agencies using the MBSA.

ITEMS 1 - 26 (IMPAIRMENT LEVEL)

The column titled "Impairment Level" is a computed by subtracting the response in the first column (Present Functional Level) for a particular item from the second column (Normative Function Level) for that item. Therefore, if an individuals functional level for item one is four and the Normative Functional Level for a child of his age is seven, his Impairment Level would be three (7-4 = 3).

DATA HANDLING PROCEDURES FOR THE MICHIGAN BEHAVIORAL SKILL ASSESSMENT

HOW TO SUBMIT DATA

Data obtained from the administration of the MBSA is to be submitted in the form of punch cards. It is preferred that all information be punched on eighty column cards, however, if eighty column equipment is not available, ninety-six column System Three cards will be acceptable. If ninety-six columns cards are used, the same format is to be applied to the first eighty columns of the card and the last sixteen columns left blank. The keypunch format for the MBSA is included in Appendix II.

WHERE TO SUBMIT DATA

The punched cards for the MBSA are to be submitted to:

MICHIGAN DEPARTMENT OF MENTAL HEALTH
DATA PROCESSING
LEWIS CASS BUILDING
LANSING, MICHIGAN 48926

WHEN TO SUBMIT DATA

Data (punched cards) obtained from the MBSA is to be submitted to the Department of Mental Health on a monthly basis. Evaluations completed during the month are to be sent in no later than seven days after the close of the month.

APPENDIX C

HOW TO OBTAIN MBSA BOOKLETS AND RELATED FORMS

The MBSA booklets and related forms can be obtained by contacting:

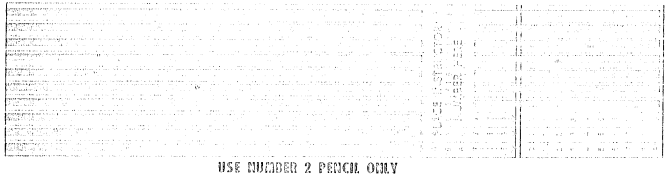
MICHIGAN DEPARTMENT OF MENTAL HEALTH
OFFICE SERVICES
LEWIS CASS BUILDING
LANSING, MICHIGAN 48926

All materials should be ordered by form number. The numbers for the materials used in administering the MBSA are:

RESPONSE SUMMARY I	DMH	1822
RESPONSE SUMMARY II	DMH	1823
MICHIGAN BEHAVIORAL SKILLS ASSESSMENT	DMH	1824
MICHIGAN BEHAVIORAL SKILLS PROFILE*	DMH	1825

* The Michigan Behavioral Skills Profile is a document for agency use only. The MBSP is a modification of other response sheets to present a summary of client behaviors in a somewhat graphic fashion. It has not been discussed in this manual because of the possibility of change in an effort to satisfy the agency needs. Up to date instructions and a explanation of uses will be included with forms.

WESTERN MICHIGAN UNIVERSITY



USE NUMBER 2 PENCIL ONLY

NAME

DATE

PLEASE ANSWER LAST TWO QUESTIONS ON OTHER SIDE

APPENDIX D

January 20, 1975

Dear Professional Colleague:

I am a doctoral student at Western Michigan University in Kalamazoo, Michigan. I have chosen to conduct a study to determine the validity and reliability of the Michigan Behavior Skills Assessment Scale for my dissertation.

The scale will be used in evaluating the level of adaptive behavior exhibited by clients of agencies for the mentally retarded in Michigan. There are twenty-six areas in which a client's adaptive behavior is to be assessed. The existing adaptive behavior level will be rated by attendant personnel who know the residents best. The attendant ratings are to be used in the development of habilitation plans for each resident.

I will be studying both the inter and intra rater reliability of the attendant ratings. If the ratings are reliable and valid, attendant could be used more effectively in data collection at the various agencies.

I am proposing that the content validity of the scale be determined by subjecting the scale to evaluators in the field. Therefore, I am requesting your professional participation to determine the content validity.

I would like you to assess the breadth and scope of the scale using the attached questions as your criteria. Your time and effort in completing this evaluation is deeply appreciated.

Please return your evaluations by February , 1975, in the self-addressed, stamped envelope.

Sincerely,

James J. Coleman

James J. Coleman, Doctoral Candidate
Western Michigan University

Morvin Wirtz, Ed.D.
Professor of Special Education
(F.A.A.M.D.)
Committee Chairman

JJC:rfh

1. Do the twenty-six items listed cover the essential areas necessary to assess adaptive behavior of institutionalized mentally retarded residents?

   a. What additional items do you recommend?

      Why?

   b. What items should be deleted?

      Why?

2. Are the seven response choices for each item developmentally ordered?

   a. What changes in the order do you recommend?

      Why?

3. Do the instructions clearly state what is expected from the respondent?

   a. What changes, if any, do you recommend in the instructions?

      Why?

4. Additional comments about the scale which would be helpful in further refining content validity.

(If possible, could you please provide me with a copy of your vita to properly document the expertise of the respondents.)

APPENDIX E

AGENDA

Program Directors' Meeting
January 17, 1975
10:00 - 12:00
Coldwater State Home & Training School

I. Introduction of Researcher - Dr. Louise Kent

II. Purpose of the Research - James J. Coleman

III. Procedures to be used in the Research Study - James J. Coleman

IV. Question and Answer Session - Dr. Kent
James J. Coleman

V. Summary - James J. Coleman

APPENDIX F

SUPERINTENDENTS COMMITTEE
TO REVIEW RATING SCALES

C. Dale Barrett, Jr., M.D., Chairman
Coldwater State Home and Training School
Coldwater, Michigan 49036

D. W. Martin, M.D., Superintendent
Clinton Valley Center
Pontiac, Michigan 48053

Marlin H. Roll, Ph.D., Superintendent
Caro Regional Center
Caro, Michigan 48723

Don K. Worden, Ph.D., Superintendent
Northville Residential Training Center
Northville, Michigan 48167

Albert Meuli, Superintendent
Newberry State Hospital
Newberry, Michigan 49868

APPENDIX G

March 12, 1974

Dr. Dale Barrett, M.D.
Superintendent
Coldwater State Home and Training School
Coldwater, Michigan

Dear Dr. Barrett:

I am a doctoral student at Western Michigan University in Kalamazoo, Michigan. I have chosen to conduct a study to determine the validity and reliability of the Michigan Behavior Skills Assessment Scale for my dissertation.

I would like to meet with you at your convenience to discuss my proposed study.

I will be studying the content validity of the MBSAS and the reliability of attendant ratings of residents' adaptive behavior.

Please write or phone me at the following:

James J. Coleman
625 McCourtie Street
Kalamazoo, Michigan 49006

or

616 - 345-4996

Your consideration of this request is deeply appreciated.

Sincerely,

James J. Coleman

APPENDIX H

LIST OF RESEARCHERS

Michael J. Begab, Ph.D
7910 Woodmont Avenue, Room C-708
Bethesda, Maryland 20014

Ms. Sharon Evans, Psychologist
Regional Evaluation Center for the Assessment
of Children with Handicaps
Pleasant School
Pleasant Street
Kalamazoo, Michigan

James Gardner, Ph.D.
30 Brisbane Street
Toowong, Australia 4066

Herbert Grossman, M.D.
Director
Illinois State Pediatric Ins.
1640 W. Roosevelt Road
Chicago, Illinois 60608

J. Hogg, Ph.D.
Senior Lecturer
Hester Adrain Research Center for the Study
of Learning Processes in the Mentally Handicapped
University of Manchester
Manchester, England

Ibrahim Hussein, Ph.D.
5750 W. 95th Street, Suite 308
Overland Park, Kansas 66207

John Kowalski
Macomb-Oakland Regional Center
36358 Garfield Road
Fraser, Michigan 48026

Henry Leland, Ph.D.
The Ohio State University
653 Glenmont
Columbus, Ohio 43214

Kazuo Nihira, Ph.D.
Neuropsychostric Ins.
University of California at L.A.
760 Westwood Plaza
Los Angeles, CA 90024

List of Researchers (cont'd)

Charles F. Shields
Coordinator of Psychological Services
Georgia Retardation Center
4770 N. Peachtree Road
Atlanta, Georgia 30341

Angela Yaron, Ph.D.
58 S. Grape Street
Denver, CO 80222