AN MMPI HANDBOOK

A GUIDE TO USE IN CLINICAL PRACTICE AND RESEARCH

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by W. Grant Dahlstrom and George Schlager Welsh

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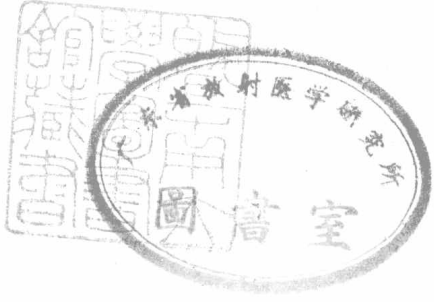

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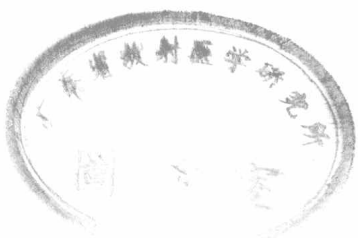

To

STARKE R. HATHAWAY

and

THE LATE J. CHARNLEY McKINLEY

Foreword

IT WAS difficult to persuade a publisher to accept the MMPI in 1941. Dr. McKinley and I had faith sufficient to carry us through several rejections before the University of Minnesota Press finally undertook publication. We had begun in the late 1930's to assemble items for a new kind of personality inventory or test because we were convinced that an objective instrument for the "multiphasic" assessment of personality by means of a profile of scales would be useful in research and clinical practice. With an approach related to the empirically developed Binet tests of intelligence and the Strong Vocational Interest Blank, we had built scales from the responses of groups of patients routinely classified into the current clinical nosology. Most of the other tests of the time derived scales from the rational construction of items having face validity for the variables to be measured; or if empirical scales were employed, they were derived from heterogeneous neurotic or other maladjusted groups. The available tests seemed deficient both in the popularity of their theoretical bases and in the clinical usefulness of what they were expected to measure.

Our most optimistic expectation was that the methodology of the new test would be so clearly effective that there would soon be better devices with refinements of scales and of general validity. We rather hoped that we ourselves might, with five years' experience, greatly increase its validity and clinical usefulness, and perhaps even develop more solidly based constructs or theoretical variables for a new inventory. I doubt now that it is possible to improve the MMPI enough to repay the effort. I am not even sure that we could hold to what validity and usefulness we have.

Work on the MMPI began at a time when the modernized Kraepelinian classification system was still functioning. The individual scales then derived their particular properties from whatever was peculiar to those groupings. There were obvious shortcomings to this system. More rational and more clinically useful groupings were needed; also, it was clear that the system was not dynamic enough. We anticipated that the development of these better systems would make possible superior scales constructed by the MMPI methodology, but our hopes were not realized. Although various rational systems emerged, each with some adherents, none has prevailed. The new theoretical structure which we supposed would suggest a nosology of dynamically coherent personality types suffered the same fate. No such types have become popular.

Progress has not been better in the unpretentious approach to classification of clinical description. We still have only a weak rationale for speaking of specific

causation or treatment of the mentally ill. I doubt that today's psychiatrists and psychologists could agree in descriptively identifying more than two or three modestly discrete diagnostic groupings among patients. The ubiquitous schizophrenia has spread into nearly every syndrome to the point where we may need to base a clinical nosology upon a breakdown not of mental disorders but of schizophrenias. In the meantime, the new and better MMPI cannot be derived from such amorphous clinical types. The original test has partly preserved the old classifications and possibly, weak as they are, some of its code pattern types cannot be bettered by the practices of modern clinical diagnosis.

The persons who obtain a given type of profile among those the MMPI provides are indubitably alike in that they make item responses with item and scale communality. We can select similar groups of people with this often mysteriously meaningful objectivity and somewhat stabilize our experiments in therapy, prognosis, and psychologic manipulation. Using MMPI codes for description of these groups provides at least an interim communication method about personality until we develop better classes.

A justification for the MMPI can be suggested now that was unforeseen in 1941. The subsequent wide use and availability of the test permits easier replication and application of experimental results than is the case if unfamiliar items and tests are used. The latter require too much of us. Our inertia prevents a proper pyramiding of new data upon the findings of others. When new findings are presented using an unfamiliar test, we rarely even replicate the work and still more rarely build upon it. If an investigator uses the MMPI or another widely employed test, however, then more information is easily added to the substantial fund already accumulated and the tool to use in replication or further work is readily available.

That the MMPI will be a steppingstone to a higher level of validity I still sincerely hope; I hope too that the new level will soon loom in sight. In the meantime I see it as a steppingstone that permits useful communication at its own level even though the stone is rather wobbly.

As I have stated, the MMPI began with validity based upon the usefulness of the various diagnostic groups from which its scales were derived. Now the burden of its use rests upon construct validity. Only a small fraction of the published data relating clinical or experimental variables to its scales or profiles can be understood in terms of the original approach. If the validity views of 1941 were the only support for the inventory, it could not survive. What is happening is that the correlations being observed with other variables in normal and abnormal subjects are filling out personality constructs that emerge, to be in turn tested for their ablility to survive. It is significant that constructs, in the general sense of construct validity (Cronbach and Meehl, 1955), can be the forerunners of diagnostic classes.

I do not think that marked improvement in clinical validity can come now with merely different items, with modification of item weighting, or, in general, with revision of scales based upon our present diagnostic and statistical methods. No improvement that seems presently attainable is likely to remedy by much the deficiencies of the criterion groups we can provide from current clinical practice or personality theory. In developing some of the MMPI scales (Hathaway, 1956b) we tried a variety of item-weight systems. Nothing that we could find improved discrimination enough even to compensate for the increased complexity of scoring in contrast to the simplicity of unit weights. It seemed that a scale needed at least

thirty separate responses and if a criterion group was not homogeneous, as with schizophrenic patients, then many more responses were required. We lost test power whenever we did anything but add empirically pertinent items. Further, adding "extra-good" items did not work appreciably better than adding items with only moderate reliability. We were eventually driven to the simple generalization which had provided our initial point of departure: the more differential items a person answered like some criterion group, the more like the group he appeared in other ways – without there being any requirement that the items belong together statistically, show a difference of extra-high reliability, or have a recognizable rational validity.

People who answer True to questions asking if they have red hair or large feet, like turnips, or read science fiction are alike. Every objective response like these has a group of implicit associated responses dispositionally suggested by the primary one. These implicit responses may be the real carriers of personality inventory validity. An example might be that people who say they like turnips are likely to be farmers or to play juke boxes or to smoke a pipe. Meehl (1945a) has referred to this as the projective aspect of objective items. These associated implicit items probably relate to the syndromes we identify rather than to the primary item about turnips. At any rate, our early lesson was that the face content of the scale items did not well suggest the clinical construct that grew up with use of a scale. Preoccupation with item form and content misses the real nature of the item. This real nature can only be discovered by a process of searching through the indefinite multitude of other implicit items.

Once one is free of preoccupation with the item as a bit of language or a factual report, it is easier to see why the attempt to avoid distortion of scales by response sets or role playing or lying is unlikely to help us much. If certain of those persons who say they like turnips are lying, they are, of course, different from the others to some degree. We have to evaluate the validity implications of the fact that they tell this lie. I have asserted above that to say one likes turnips carries associated contingent implications. Some people would not even admit to liking turnips if pushed to lie about it; those who can be induced to lie to that effect do not consider it completely intolerable to be associated with the turnip eaters. The data on response sets, such as social desirability, nicely show that the seeming fact of an item is perhaps infrequently the real determiner of the subject's response in a test situation. Preoccupation with some kind of *real* meaning or truth about the turnip item could therefore have little to do with the scale validity of the item.

A kind of lying or role playing (if we must use a euphemism) is inevitably a part of personality. Role playing can be extended to include all personality facets, and overuse of the word *role* may be confusing us. It is obvious that we provide a physician, a bartender, an employer, and a spouse with different views of ourselves. One cannot say which of us is the *real* person. The *real* person we speak of is usually a vaguely described confidential self that we see in ourselves or others. But such confidential selves are roles too and much less useful ones for most purposes than are the routine ones of our daily encounters.

The problem of a salesman is to present his product. He may confidentially consider the product to be inferior; nevertheless he must know how to make it appear desirable to others. He also sells himself. He may see his *real* self to be different from the one he shows the prospective buyer, but he must know and express

a self or role that is good for the sale. A personality test insensitive to the personality that a salesman produces in response to appropriate social situations would be a poor instrument to use for identifying salesmen. Similarly, a patient will be more responsive to treatment as a psychotic if his responses are like those of routine psychotic patients even if these are in some sense put on for the occasion. A personality test can be used as a communication method between clinicians, but it also permits clinicians to know which patients are prepared to play the game of diagnosis and therapy as we have learned it. A personality test would likewise be a poor instrument if it were not responsive to such a "clinically desirable" distortion by patients.

I still feel, as I have for some time, that no subject is more important for our work with personality measurement than is role playing or, perhaps better, multiple personality. We need to know the various personalities of an individual and the motivational factors influencing their appearance. To me, it seems naive to assume that the turnip item could be replaced by an associated one found to be the actual validity carrier, because the subject's implicit association will have a different response probability if it is made into an explicit item. Like earlier psychometricians, I believe that personality test data depend greatly upon the situation of testing, which is itself a function both of the particular items and of the more obvious environmental factors. Skilled manipulation of the environmental testing situation is crucial to elicit the personalities we wish to measure, and interpretation of test data can proceed validly only when we can have an idea which personality the testee has presented. It is clear that a test should be sensitive to these various personality aspects because the data we get are valid only for the proper role. If we want to select a salesman, we would not want a physician to obtain the MMPI profile unless we were more interested in the applicant's physical and mental health than in his ability to be a good salesman. We must not be dismayed by having to give the personality test twice if we want two valid assessments of a person. We may have to administer the test once under the auspices of a personnel department and once with the protection of professional confidence. Different persons, instructions, surroundings, and implied uses of the data are needed to elicit different personalities of the individual. Once again I want to emphasize that the various profiles are all valid. Our tests often appear weak because we have not evoked the appropriate profiles or properly extracted the available validity.

The "K" attitudes—those influencing lying or role playing—are a crucial area for progress with the problems of objective personality measurement. To understand and manipulate the "K" attitudes is more significant than expending energy on the undesirable, indeed impossible, effort to eradicate "K" from personality variable measurements.

Construct validities for personality test profiles, then, appear to be what we are working toward. These provide standardization as communication and suggest the stabilization of some of the constructs into diagnoses. Beyond this I cannot see. If we conclude that the methods we are using are not satisfactory, we seem to need something really novel. This could come in the discovery of a successful rational approach to personality analysis or in some difficult-to-imagine breakthrough in psychometric method.

First with their *Basic Readings on the MMPI in Psychology and Medicine* (1956) and now with their *Handbook*, Dahlstrom and Welsh are providing us with

a basis for construct development of the MMPI as well as for present practical applications of the test in ways that will develop what validity we have. Because the need for tests is great, there is always a danger that research energy will be dissipated by wide and improper use of an instrument. To prevent this, it is necessary that the methods and promise of a test be sharply understood and ruthlessly evaluated. Dahlstrom and Welsh prepared the present volume to contribute to this understanding and evaluation of the MMPI.

The *Handbook* began as a small book and grew up. It was to have been made up of useful tables and other basic information and a brief survey of the literature. But the proliferation of publications bearing on the MMPI made the bibliography alone almost unmanageable; even a selective review of the research findings represented by the bibliography required a much lengthier discussion than had at first been anticipated. Yet if the volume was to be a handbook in the fullest sense of the word, such an analysis seemed imperative. The statistical and other tabular material, too, grew at a surprising rate as practical reference data were assembled—witness the fourteen appendixes. When the word *Multiphasic* (an etymological bastard) was chosen, we thought that numerous scales would be found among the items, but we surely never expected there would be the 213 listed in Appendix I.

The authors have done a real service in this *Handbook*; it is factual and thorough. We could not tolerate a biased selection of data and empty statements of faith in the value of the MMPI. Dahlstrom and Welsh have organized and presented objectively an impressive array of materials from a wide variety of sources. They have permitted the data and the work in progress to speak for themselves. We who use the MMPI today and who are already trying to look into the future of this field are therefore lastingly in their debt.

STARKE R. HATHAWAY

University of Minnesota
December 1959

Preface

In the decade and a half that the MMPI has been commercially available, a continually increasing number of studies have appeared on the use of this test, in whole or in part, for a wide variety of problems in assessment, selection, and prediction. This volume attempts to present an organized account of current MMPI usage in clinical practice together with the findings to date on its various validities.

No adequate introduction to the MMPI has been available for persons just beginning their study of this test. The materials prepared by Gough (1953c), Cottle (1953a), and Cuadra and Reed (1954) have often been used for this purpose, but while each of these sources can be consulted with considerable profit by any clinician, their restricted scope, specialized approach, and limited availability have tended to reduce their utility as primers. The present volume, it is hoped, will provide for the beginning clinician a clear and digestible indoctrination into methods of administering, scoring, and interpreting the MMPI. We hope too that a clinician who already has considerable familiarity with the test will be able to find in this material enough new and useful data on both advanced interpretation and special test applications to make him tolerant of the space devoted to more elementary matters. At the same time, many of the needs of the research worker should also be met in the analyses of pressing methodological issues in the text and in the wealth of material summarized in the technical appendixes.

Several points should be kept in mind in regard to these appendixes. Since the booklet form of the test is the one that is most widely used now, all the item entries are listed by their booklet form numbers. (Note that Table 2 in Appendix C provides a means for determining the card form number corresponding to any given booklet form number.) Also, the basic scales are referred to in these appendixes only by their standard code numbers; the reader should familiarize himself with this notation system as described in Chapter 1 before attempting to use these materials.

Although the material in the appendixes is newly organized and often includes unpublished data, some of the information here appears in similar form in other publications. Thus, data on the direction of response typical of Minnesota normals for each item, provided in Appendix A, are also presented in Gaston *et al.* (1956) and, by card form number, in the *Manual* (Hathaway and McKinley, 1951). Olson and Peek (1954) include comparable data in their item conversion tables.

Appendix B provides the scale membership and direction of scoring for each item in the test. These data are also available in the tables of Gaston *et al.* and Ol-

son and Peek. Richards (1946), Davis (1947), Krise (1947), Navran (1950), and G. C. Clark and Allen (1951), all provide essentially the same information on scale membership and item overlap.

The item conversion tables in Appendix C for transforming from one form, card or booklet, to the other have been reproduced from the published materials of Welsh and Sullivan (1952a). Gaston *et al.* provide for conversion in a single direction, booklet to card form, while the materials prepared by both Borko (1951) and Olson and Peek allow conversion in both directions. By means of the data in Appendixes A and C, keys can be prepared on the card form for any scale listed in Appendix I. Appendix C also includes the numbers of the items duplicated in the booklet form of the test.

The material in Appendix D listing the items in alphabetical order is based upon the published list of Kimber (1957) and is reproduced here in slightly modified form by special permission. We gratefully acknowledge our appreciation to J. A. Morris Kimber and to Frederick C. Thorne, editor of the *Journal of Clinical Psychology*. Appendix D should enable workers to identify quickly items from the MMPI when a reference has omitted their booklet or card form numbers.

In Appendix E are given the frequencies of endorsement of each item by various groups of Minnesota normals. These data have not been published before. We are indebted to Starke R. Hathaway and Peter F. Briggs for providing us with these findings from their recent re-analysis of the original normative data, as described by them in Hathaway and Briggs (1957). The percentages of each group answering a given item True or omitting the item altogether have been tabulated; the corresponding percentages of False replies can easily be computed.

In Appendix F, the average rating of social favorability for each MMPI item is given, based upon the research of Charles E. Heineman while he was at the State University of Iowa. Although he has reported on a forced-choice anxiety scale (Heineman, 1953) derived in part from these data, the findings have not been previously published. We gratefully acknowledge our appreciation to him for permission to include these data in this volume.

Appendix G provides a list of critical items originally compiled by Leon I. Hellman at the Veterans Administration Center in Los Angeles, California. This list was published in Grayson (1951). No empirical data on its effectiveness as a screening device were made available; this set of items is in wide use in clinical facilities around the country, however, for rapid identification of problem areas.

Normative data in the form of T scores are given in Appendix H. Data in the first three tables have been adapted from the *Manual* and the standard MMPI profile sheets that are published and distributed by the Psychological Corporation. Table 1 provides the fractional values of each score of the K scale needed for standard K corrections of five of the basic clinical scales. T scores for all the basic MMPI scales have been listed separately for men and women in Table 2. Some of these entries have been arbitrarily extended beyond the values provided in the original sources to bring them in line with recent developments and current interpretative practices. The T scores for scales 1, 4, 7, 8, and 9 listed in Table 2 are based upon raw scores that have been corrected by appropriate fractions of K from Table 1. Since many clinicians do not use K corrections for these scales, Table 3 has been included to provide the T scores for all the basic scales of the MMPI without such corrections. Although the entries for the noncorrected scales are the same for Tables

2 and 3, the duplication has been retained to facilitate scale transformations and reduce clerical errors arising from the need to consult a variety of tables. Table 4 contains T-score values for men and women on several special MMPI scales: first factor scale (A), second factor scale (R), ego strength (Es), low back pain (Lb), caudality (Ca), dependency (Dy), dominance (Do), responsibility (Re), prejudice (Pr), status (St), and control (Cn). These data come from Hathaway and Briggs (1957) and are based upon the same Minnesota reference group as the basic MMPI scales.

Appendix I lists the component items and their scoring direction for the special scales that have been developed from the MMPI item pool. These scales are listed in alphabetical order by their brief letter designation. When possible these abbreviations are the ones used by the author to refer to his scale or those that have been used in the test literature, but often it was necessary to assign arbitrary letter designations to these scales. That is, where two or more scales were designated by the same letters, where the usual way of abbreviating the scales did not conform to the common two-letter system employed in most of the MMPI literature, or where a scale author did not offer any abbreviation of his own, we have supplied an arbitrary one. There are also some instances in the literature of the same scale being designated by two or more abbreviations; we chose one of these arbitrarily. It is hoped that our list will serve as a standard guide to scale nomenclature and will provide a measure of consistency in future publications on these scales. We are grateful for the cooperation we obtained from each author in assembling these materials. Appendix I also provides a list of ten special scoring procedures and indices that are of particular interest in clinical work.

An extensive scoring procedure devised by Meehl and Dahlstrom (1959) to help differentiate neurotic and psychotic test records has been reproduced separately in Appendix J. This is not a simple compilation of signs but an organized series of profile indices to be used as a whole in evaluating a particular record.

Some of the psychometric characteristics of the basic MMPI scales from various published and unpublished sources are given in the next two appendixes. Standard reliability estimates on the scales are provided in Appendix K for several different test populations. Table 1 summarizes test-retest findings on both normal and clinical groups over a wide range of retest intervals. Table 2 gives a brief summary of split-half correlations obtained on these scales. Also included is a set of correlations between two subscales of each of the clinical scales: one subset is made up of items in that scale which do not overlap with any other clinical scale in the test (the pure items); the other subset is made up of the non-pure items. In Appendix L, intercorrelations among the basic MMPI scales have been tabulated from various groups of men and women, normals and deviates. In addition, the intercorrelations of the purified scales have been included.

Appendix M provides data on the relative frequency of various MMPI profile patterns. These tabulations are based upon the highest and second highest scales in the profile, the high-point pair. These two-point patterns are taken from several published and unpublished sources, and are listed separately for men and women. Similar information has been provided by Hathaway and Meehl (1951a, 1951b); these authors also included tabulations for combinations of the highest and lowest scores from various populations.

Appendix N lists alphabetically by country the names and addresses of persons

who have undertaken major efforts to translate the MMPI into some other language. While only a few of these projects have progressed to the stage of official translations ready for commercial distribution, this work is sufficiently important to warrant an attempt to coordinate translational efforts. It is hoped that this list will help others interested in foreign-language forms of the MMPI to become familiar with the work done to date and enable them to avoid needless repetition of these preliminary efforts. We tried to get all the significant developments in MMPI translations into this list, but we fear some important developments may have been omitted. If so, we hope that those workers will let us know about their research.

A number of works are now available on the MMPI and it is difficult for someone new to testing with this instrument to determine what the relationships are among them and what special values each of them may possess. The best introduction to the administration and scoring of the MMPI is provided by the *Manual.* As noted below, some of the material in the *Manual* has been reproduced here in Part I, but all test users should consult that source before beginning to administer this test. The *Basic Readings* (Welsh and Dahlstrom, 1956) gathers in one volume all the original derivational work published by the test authors. Reference has been made to many of these studies in describing the component scales of the test in Part II, but the worker is referred to the complete reports for detailed discussions of these efforts. In addition, the *Basic Readings* contains material on coding, derivation of special scales, profile patterning, and applications to medical, psychiatric, and therapeutic problems. Although each of these topics is discussed in the present volume, whenever a complete report was available in the *Basic Readings*, a more restricted discussion of the subject than otherwise would have been presented was developed here. Thus, it is hoped that the two volumes will serve to complement one another, making each more valuable to the test user as a result. Similar detailed reports on studies on the special problem of juvenile delinquency that have employed the MMPI are reprinted in Hathaway and Monachesi (1953). Although reference has been made to materials in these reports from time to time in this volume, no effort has been made to summarize them in detail. Workers interested in that area are referred to the studies there, and to the forthcoming report of the extended study of Minnesota ninth-graders by Hathaway and Monachesi.

The *Atlas* (Hathaway and Meehl, 1951a) is made up of nearly one thousand brief case summaries listed in order of the codes of the MMPI profiles obtained on these patients while under study. Effective use of this material presumes a familiarity with the MMPI, its component scales, the coding methods, and some of the interpretative formulations of this test. Therefore, it is recommended that persons who are beginning their clinical work study the material in Part II of this volume before trying to use the *Atlas* and its wealth of interpretative leads. The same recommendation will undoubtedly be appropriate for the forthcoming *Atlas of Juvenile MMPI Profiles* being prepared by Hathaway and Monachesi. So, too, the *Codebook* (Drake and Oetting, 1959) can be most effectively used by someone with a background of knowledge on the MMPI. The material in that book summarizes extensive observations on college men and women seen in a counseling service as these relate to various MMPI profile types. More specialized data of this same kind are reported by Hathaway and Meehl (1951b) in the army and air force manual *Military Clinical Psychology.*

The number of persons to whom we are in debt, large or small, for help in completing this volume is understandably long. The help from many of these was so great that we cannot rightfully close without special mention. Too many others will have to go unacknowledged but by no means unappreciated.

The work could not have been undertaken or carried to completion without the encouragement, assistance, and guidance of Starke R. Hathaway. His help was direct in making available to us normative data, scale composition lists, item response frequencies, code frequencies, adjective check-list data, foreign-language materials, unpublished studies, and other materials from his extensive files on the MMPI. His time was given freely in lengthy conferences, in reading various drafts, and in facilitating the preparation of the technical appendixes. We are also grateful for his thoughtful and honest Foreword to this volume.

Paul E. Meehl turned over to us a lengthy series of digests of the early MMPI literature he had prepared for a similar project; it can be honestly acknowledged that we wish he had gone on to complete the book on the MMPI that he had envisioned. Needless to say, we profited a great deal from his pithy comments on the procedures and findings of these studies that he had abstracted.

Harrison G. Gough of the University of California provided us with a substantial start on the item composition lists for the scales in Appendix I; his compilation was extensive in its coverage and gratifying in its accuracy.

Harold P. Bechtoldt of the State University of Iowa provided us with some correlational material on college students for Appendix L. George M. Guthrie carried out special analyses to provides data for the two-point high-point frequencies in Appendix M. He also gave us early access to material on coding patterns he prepared in cooperation with Nancy K. Mello (1958). Walter A. Sikes, superintendent of the Dix Hill Hospital in North Carolina, made one of the cases in Chapter 7 available to us.

William Schofield carried out additional computations on his original retest data in order to fill a need in our Appendix J. Robert E. Harris granted us permission to list the special subscales derived under his direction at Langley Porter Clinic and listed in Appendix I. James H. Panton, director of the Reception Center at Central Prison in Raleigh, North Carolina, carried out some special analyses for us, as well as giving us early access to a series of technical publications on the MMPI in a prison setting. Similarly, Norman D. Sundberg and John P. Brantner prepared some special materials for Appendix M from the files of the University of Minnesota Hospitals. H. Birnet Hovey gave us some unpublished findings on correcting for omitted items. Paschal N. Strong made available an unpublished study of extremely elevated MMPI profiles. Lawrence A. Young provided us with tabulations on data from the extended Minnesota ninth-grade study.

Jules D. Holzberg gave us permission to reprint entries in a corrected table from his study with S. Alessi on shortened versions of the MMPI. The original article appeared in the *Journal of Consulting Psychology* and the material has been reproduced with the permission of the American Psychological Association. The editors of several journals very kindly granted us permission to quote from articles originally published by them: *Educational and Psychological Measurement* (the study of E. M. Ligon); *Journal of Clinical Psychology* (the study of Starke R. Hathaway and Peter F. Briggs); *Psychiatry* (the studies of H. C. Shands, E. E. Baughman, and D. R. Hawkins). Harper and Brothers granted us permission to reproduce

the diagram of psychological dimensions of the MMPI from a work by S. Diamond, *Personality and Temperament.* They have also allowed us to quote from a book by D. E. Super, *Appraising Vocational Fitness by Means of Psychological Tests.* We have drawn upon the material in sections of the *Codebook* by permission of Lewis E. Drake and Eugene R. Oetting and the University of Minnesota Press. The University of Chicago Press granted permission to quote from *Psychotherapy and Personality Change* by C. R. Rogers and Rosalind F. Dymond.

Harold G. Seashore, director of the Test Division, and his staff of the Psychological Corporation took a great deal of care and time to go over the material in Part I of this volume in order to help assure its consistency with the current MMPI materials and the marketing practices for this test. We are grateful for the help they provided and for the permission to reproduce as much as we have borrowed from the test *Manual.* Our suggestions in Part I do not always agree with current recommendations but we have tried to make it clear where we deviate and the reasons for the alternate procedures. The description here cannot substitute for the *Manual* but it may provide help in meeting problems of administration not anticipated or discussed in the *Manual.*

In addition, several associates have read the manuscript in part or whole and offered constructive suggestions and corrections. E. Earl Baughman of the University of North Carolina, Charles D. Spielberger of Duke University, and Leonard D. Goodstein of the State University of Iowa all took pains to improve the coverage, style, and clarity of the material. The errors remaining cannot be ascribed to them, however; we retain full responsibility for their number and magnitude.

We are indebted to a number of our graduate students, first for their patience in listening to our tentative formulations and preliminary efforts to organize the material on the MMPI, and secondly for many hours of tabulating, checking and rechecking items, scores, and patterns. In this latter effort we should make particular mention of Miss Joan French, Miss Isabel Madry, and Lennard Pepper.

We are also in debt to a number of people who assisted in preparation of the manuscript and technical appendixes. At the State University of Iowa, Miss Birdice Clark, Mrs. Anne McCormack, and Mrs. Marianne de Pringer were generous in the use of their time and energies. At the University of Minnesota, Miss Frances Mathison and Miss Amy Shogren devoted their time and their high clerical skill to checking materials in the technical appendixes. Here in Chapel Hill, we would like to acknowledge the gratitude we feel to Mrs. Leona Dahlstrom, Mrs. Alice Welsh, Mrs. Edith Shaffer, Mrs. Barbara Wheeler, Mrs. Carolyn Oglesby, Mrs. Dorothy White, Mrs. Joanne Landau, and Mrs. Mary Barrett of the Department of Psychology and to Mrs. Frances Schnibben in the Institute for Research in the Social Sciences for long hours and conscientious effort in preparing manuscript and checking proofs. Throughout this project from conception to completion, the staff members of the University of Minnesota Press have been unstinting in their help and encouragement. To all of them and many more we extend our gratitude and thanks.

W. Grant Dahlstrom
George Schlager Welsh

University of North Carolina
December 1959

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