12-1971

A Comparison of the Standard MMPI with a Short Form: The Mini-Mult

B. Gerald Hartman
Western Michigan University

A COMPARISON OF THE STANDARD MMPI WITH A SHORT FORM: THE MINI-MULT

by

B. Gerald Hartman

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
December, 1971

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to his thesis committee, Dr. Malcolm Robertson, Dr. John Nangle and Dr. George Sidney. Their timely involvement in this project through helpful suggestions, constructive criticism and understanding has broadened the dimensions of his experience while enrolled as a student at Western Michigan University.

The author would also like to convey grateful acknowledgement to the staff of William Upjohn DeLano Memorial Clinic of Kalamazoo for their cooperation and helpful assistance in this study. Special mention is due Dr. Cyril Curran, Mr. Gordon Gradwell, Mr. John Gallagher and Mr. James DeHaan.

Special thanks and grateful appreciation are expressed by the author to his wife, Ruth, for her confidence, help and encouragement throughout the entire project and without whose cooperation this study could not have become a reality.

B. Gerald Hartman

TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

INDEX OF FIGURES

INTRODUCTION

The purpose of this study is to compare a recently developed short form of the Minnesota Multiphasic Personality Inventory, hereafter called the Mini-Mult (Kincannon, 1968), with the standard length form of the test (Hathaway and McKinley, 1967).

Since Hathaway and McKinley's studies first appeared in 1940, the Minnesota Multiphasic Personality Inventory (MMPI) has become widely known as an effective tool in the clinical and counseling fields. In recent years, however, a growing number have become concerned with the extreme length of the instrument. Its length may limit its usefulness in many situations. Patients often find it difficult to answer 566 items. The time factor is often a problem in personnel selection where the MMPI is used. A less cumbersome tool would be a great advantage for use in research.

These problems of the long form of the MMPI together with the advantages of more rapid evaluation and speed in collection and interpretation of psychological data make the utility of a shorter form very attractive in certain situations. Among a number who have attempted to develop a shortened form of the MMPI (Foulds, Caine, and Creasy, 1960; Jorgenson, 1958) is Kincannon (1968)

who developed a 71 item short form which he called the Mini-Mult. His research on this new instrument indicated a rather high correspondence between the Mini-Mult and the MMPI. This form appears to have a good potential for usefulness since it was specifically designed to predict all the standard validity and clinical scales.

Lacks (1970) in a study at Malcolm Bliss Mental Health Center, St. Louis, Missouri took the MMPI answer sheets for 94 inpatients and scored them for both the MMPI and the 71 item Mini-Mult. The results of the correlational and clinically relevant comparisons in this urban, acute, intensive treatment center population supported the essential findings of Kincannon.

Lacks and Powell (1970) in another study showed the relationship between the MMPI and Mini-Mult for a group of hospital attendant applicants. The data was collected from the personnel files of 20 males and 20 females who had applied for employment as psychiatric attendants at a Mental Health Center. The results of the study indicated that the Mini-Mult is reliably related to the standard MMPI in this population. For the group statistically significant differences were found for the Pa scale, Pt scale and the Ma scale. Correlations between the two forms for the different scales ranged from .65 to .90.

Armentrout and Rouzer (1970) investigated the accuracy with which the Mini-Mult could predict the features of the standard MMPI in a non-psychiatric population of institutionalized adolescents. The subjects were 100 male and 25 female delinquents between the ages of 13 and 19, who were tested at a residential diagnostic center. The Mini-Mult was administered first to all the subjects. The standard MMPI was administered within a 24-48 hour period. Group results for both sexes showed good correspondence between Mini-Mult and MMPI scores. However, the authors implied that the limited scope of their study curtailed their conclusions about the use of the Mini-Mult in making individual profile predictions.

A great volume of research has gone into various studies of the problems involved in creating effective shorter versions of longer test instruments (Borgatta, 1964; Jorgenson, 1958; Kramer, 1965; Mumpower, 1964; and Silverstein, 1965). A major problem in creating a shortened instrument is the assumption, generally accepted by many investigators, that a longer test is significantly more reliable, and therefore, potentially more valid than a short form. Kincannon (1968) pointed out that the Spearman-Brown formula mathematically supports this assumption. However, this assumption holds only when all the items of a test are equivalent.

Equivalency of the items in the MMPI has not been established. Therefore, the objections to shortening the test on the basis of this assumption do not hold. Kincannon further pointed out that since the items in each scale are not equivalent, the shortening of the test would not require random deletion of items. So he followed a systematic procedure of reducing the items in developing the Mini-Mult. He was able to demonstrate his results by actually using the Spearman-Brown formula and comparing the results with the actual loss of reliability. He was able to show an average loss of only 9% in reliability where the Spearman-Brown formula predicted an average loss of 28% (Kincannon, 1968).

In his study, Kincannon used data derived from standard MMPIs administered to three separate groups. One population sample consisted of 50 male and 50 female recent admissions to the psychiatric service of a city-county general hospital. Another population was from consecutive admissions of 25 males and 25 females to an outpatient community mental health center. The third population sample was drawn from the acute psychiatric service of a general hospital. From the standard MMPIs administered to these three groups he extracted the Mini-Mult scale scores. Product moment correlations computed for the corresponding MMPI and Mini-Mult scale

scores were uniformly high for all three populations.

It was with the third sample population that Kincannon (1968) did his most intensive research. Each subject in this group was asked to do a retest of the standard MMPI and take an independently administered Mini-Mult in an alternating sequence with the MMPI retest. Additional correlations between comparable scales for all combinations of the two administrations of the two forms revealed a high degree of correspondence between the independently administered Mini-Mult, the extracted Mini-Mult, and the standard MMPI. His analysis of the differences between the means of the scale scores on the Mini-Mult and the corresponding means of the scale scores on the standard MMPI showed only three statistically reliable differences between the means for scales F, 1, and 9. These differences were found on the comparison of the first administration of the standard MMPI and the Mini-Mult which was extracted from this MMPI protocol.

An adult outpatient psychiatric clinic provided the population from which the research for the present study was derived. In this study the scale scores of an independently administered Mini-Mult were compared to the scale scores of the standard MMPI and the Mini-Mult which was extracted from the standard MMPI.

The following hypothesis was postulated:

> There are no statistically significant differences between the corresponding scale scores of the independently administered Mini-Mult, the standard MMPI and the Mini-Mult extracted from the standard MMPI for either outpatient males or outpatient females.

No effort was made to make this study a replication of Kincannon's (1968) research. Although some parts of the research were similiar, the treatment of the material was in general different. The booklet administration of the Mini-Mult was used instead of the oral administration. An analysis of variance was used instead of paired *t* tests to determine mean score significant differences. The use of diagnostic impression comparisons provide an additional variation of research method.

METHOD

Sixty subjects from an adult outpatient psychiatric clinic were given both the standard MMPI and the Mini-Mult during regular intake procedures. The age range was 17-55, with a mean age of 25.4 years for males and 29.4 for females. For the purposes of the analysis the 30 males were considered one group and the 30 females a second group.

One-half of the subjects took the written standard MMPI first and the other half took the written Mini-Mult first on an alternating basis. Each individual took both tests within a one week period. The tests were administered by clinical psychology trainees or clinic secretaries. The directions given were those suggested in the MMPI Manual (Hathaway and McKinley, 1967).

All standard MMPIs were machine scored and K corrected. The Mini-Mults were scored with templates derived from Kincannon's research on the Mini-Mult. The raw scores obtained were converted into standard scale scores and K-corrected using Kincannon's conversion table. Three sets of raw scores on the eleven clinical and validity scales (L, F, K, 1, 2, 3, 4, 6, 7, 8 and 9) were recorded. These were the administered Mini-Mult

(MM_1) scores, the standard MMPI scores, and Mini-Mult (MM_2) scores taken from the full MMPI. The standard scale raw scores with K added were used in the statistical analysis.

In addition to comparing the scale scores of the three test sets, the diagnostic profile codes were also compared. This was done to demonstrate the effectiveness of the short form as compared to the long form in an actual clinical situation where clinical psychologists report diagnostic evaluations.

Three clinical psychologists who were experienced in interpreting MMPI profiles were asked to concur on a diagnostic impression for each subject on the basis of the coded profiles for MM_1 and the standard MMPI. These clinicians were not given information regarding the source of the individual codes. The ordering of codes on the two tests differed so that a subject's code did not fall in the same position on both lists.

RESULTS

From the two administrations, three sets of scores were obtained for each subject. These were the standard MMPI, the independently administered Mini-Mult (MM_1), and the Mini-Mult (MM_2) extracted from the standard MMPI protocol. The means and standard deviations for each scale of the three forms are given in Appendix A. The mean scale scores of the 30 males and the 30 females as separate groups are presented in Appendix B. Appendix C presents profiles showing the mean T scores for males and females on the three tests.

An analysis of variance was used to ascertain the presence of significant differences among the means of the scale scores for the three tests. A two factor mixed design with repeated measures on one factor made it possible to compare the differences between the three test scores on each scale for men and women patients serving as two experimental groups.

Table 1 through Table 11 shows a comparison between the standard MMPI, the MM_1, and the MM_2 for each MMPI validity and clinical scale. Where a statistically significant difference between means was indicated for a main effect, a Newman-Keuls test was employed to locate that source of significant

difference. On those scales where there was a significant interaction effect, the interactions were analyzed by plotting the mean scale scores shown in Figures 1 through 5. On scales where there was a significant difference between the sexes, no further analysis was performed.

Table 12 lists product-moment correlation coefficients between scales for all combinations of the three forms of the test. The comparison of the independently administered Mini-Mult scale scores with the standard MMPI scores ranged from .64 to .87 with a median correlation of .78. The product-moment correlations between the MMPI and the extracted Mini-Mult ranged from .66 to .89 with a median correlation of .83. The correlation between the two sets of scores for the administered Mini-Mult and the extracted Mini-Mult ranged from .74 to .90 with a median correlation of .83.

A final analysis was the comparison of the independently administered Mini-Mult with the MMPI in a manner more relevant to the types of clinical judgments for which the instruments are used. The results of the diagnostic impression concurrences of the three clinical psychologists are recorded in Table 13 and 14.

Table 13 lists the diagnostic impressions on

which there is agreement between the Mini-Mult and the standard MMPI at the category level. That is, different psychotic diagnostic impressions were considered a match in the psychotic category. The same procedure was followed for the other categories.

If the diagnostic impression given by the concurring psychologists for the Mini-Mult code was the same as that given for the MMPI code, it was called a hit. Table 14 lists the diagnostic impression agreement between the Mini-Mult and the standard MMPI for specific intra-category classifications. A hit within a category was considered a more refined classification. The categories which were applicable in this study were Psychotic, Neurotic, Personality Disorder and Essentially Normal. These categories were based on information given in the DSM II, Diagnostic and Statistical Manual of Mental Disorders (1968).

TABLE 1

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Lie (L) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	29.60	1	29.60	2.67
$Error_1$	681.40	58	11.70	
Tests	5.34	2	2.67	1.79
Interaction	2.41	2	1.21	.81
$Error_2$	173.00	116	1.49	
Total	891.75	179		

TABLE 2

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Validity (F) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	646.00	1	646.00	9.58**
$Error_1$	3912.95	58	67.45	
Tests	461.20	2	230.60	28.82**
Interaction	46.88	2	23.44	2.93
$Error_2$	929.24	116	8.01	
Total	5995.37	179		

** p is less than .01

Newman-Keuls Test of the Means of the Repeated Measures on Tests

Test Comparisons	df	r	q(t)
MM_1 and MMPI	116	3	3.217**
MM_2 and MMPI	116	3	3.550**
MM_2 and MM_1	116	2	.333

** p is less than .01

TABLE 3

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Validity (K) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	178.00	1	178.00	2.71
$Error_1$	3811.00	58	65.71	
Tests	95.24	2	47.62	14.97**
Interaction	16.31	2	8.26	2.60
$Error_2$	368.43	116	3.18	
Total	4468.98	179		

** p is less than .01

Newman-Keuls Test of the Means of the Repeated Measures on Tests

Test Comparisons	df	r	q(t)
MM_1 and MMPI	116	3	1.663**
MM_2 and MMPI	116	2	1.433**
MM_2 and MM_1	116	3	.200

** p is less than .01

TABLE 4

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Hypochondriasis (H_s) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	.006	1	.006	.00
$Error_1$	4888.72	58	84.29	
Tests	12.14	2	6.07	1.21
Interaction	7.08	2	3.54	.71
$Error_2$	580.78	116	5.01	
Total	5488.726	179		

TABLE 5

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Depression (D) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	154.94	1	154.90	1.15
$Error_1$	7871.12	58	135.69	
Tests	13.61	2	6.81	1.07
Interaction	61.14	2	30.57	4.82*
$Error_2$	735.90	116	6.34	
Total	8836.71	179		

* p is less than .05

TABLE 6

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Hysteria (H_y) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	55.56	1	55.56	.75
$Error_1$	4274.00	58	73.69	
Tests	17.34	2	8.67	1.39
Interaction	41.41	2	20.71	3.49*
$Error_2$	719.91	116	6.21	
Total	5108.22			

* p is less than .05

TABLE 7

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Psychopathic Deviate (Pd) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	151.25	1	151.25	2.92
$Error_1$	3007.48	58	51.85	
Tests	47.50	2	23.75	6.85**
Interaction	36.93	2	18.47	5.32**
$Error_2$	402.90	116	3.47	
Total	3646.06	179		

** p is less than .01

Newman-Keuls Test of the Means of the Repeated Measures on Tests

Test Comparisons	df	r	q(t)
MM_1 and MMPI	116	3	1.233**
MM_2 and MMPI	116	2	.833*
MM_2 and MM_1	116	3	.400

* p is less than .05

**p is less than .01

TABLE 8

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Paranoia (Pa) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	6.05	1	6.05	.16
$Error_1$	2194.22	58	37.83	
Tests	21.23	2	10.62	3.69*
Interaction	21.23	2	10.62	3.69*
$Error_2$	334.20	116	2.88	
Total	2576.93	179		

* p is less than .05

Newman-Keuls Test of the Means of the Repeated Measures on Tests

Test Comparisons	df	r	q(t)
MM_1 and MMPI	116	3	.083
MM_2 and MMPI	116	3	.767*
MM_2 and MM_1	116	2	.613*

* p is less than .05

TABLE 9

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Psychasthenia (Pt) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	61.25	1	61.25	.39
$Error_1$	9141.16	58	157.61	
Tests	41.70	2	20.65	2.18
Interaction	6.30	2	3.15	.33
$Error_2$	1101.33	116	9.49	
Total	10351.74	179		

TABLE 10

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Schizophrenia (Sc) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	810.69	1	810.69	4.05*
$Error_1$	11,616.77	58	200.29	
Tests	3.81	2	1.91	.11
Interaction	18.54	2	9.27	.55
$Error_2$	1960.31	116	16.90	
Total	14,410.12	179		

* p is less than .05

TABLE 11

Analysis of Differences between Male-Female Performance on the MMPI, MM_1, MM_2 and Difference in Test Results on the Hypomania (Ma) Scale

Analysis of Variance Summary Table

Source	SS	df	MS	F
Male-Female	823.47	1	823.47	31.72**
$Error_1$	1505.39	58	25.96	
Tests	43.08	2	21.54	3.46*
Interaction	59.08	2	29.54	4.75*
$Error_2$	721.18	116	6.22	
Total	3152.20	179		

* p is less than .05
** p is less than .01

Newman-Keuls Test of the Means of the Repeated Measures on Tests

Test Comparisons	df	r	q(t)
MM_1 and MMPI	116	3	1.150*
MM_2 and MMPI	116	3	.867
MM_2 and MM_1	116	2	.283

* p is less than .05

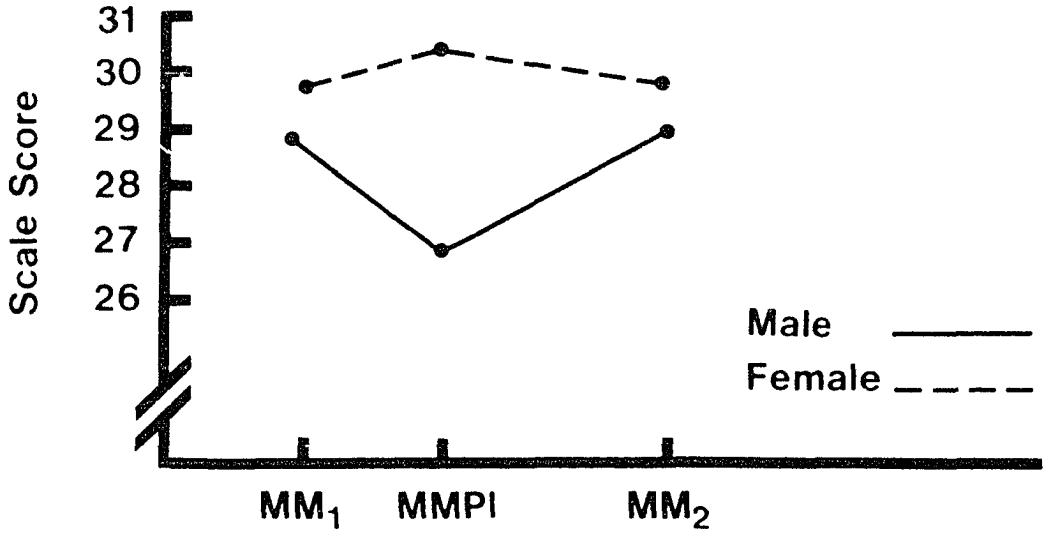


Figure 1. Scale D Interaction Analysis.

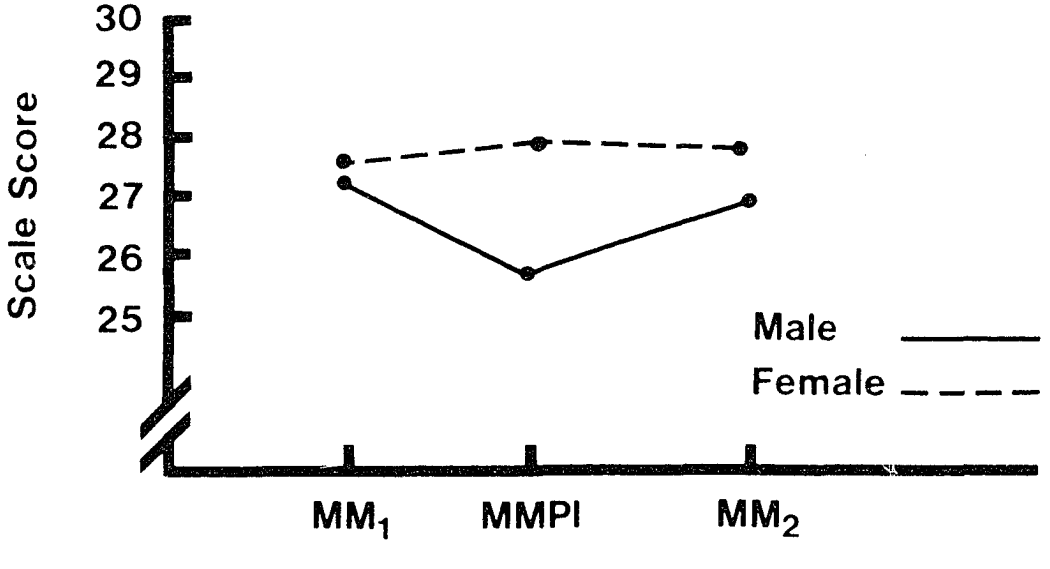


Figure 2. Scale Hy Interaction Analysis.

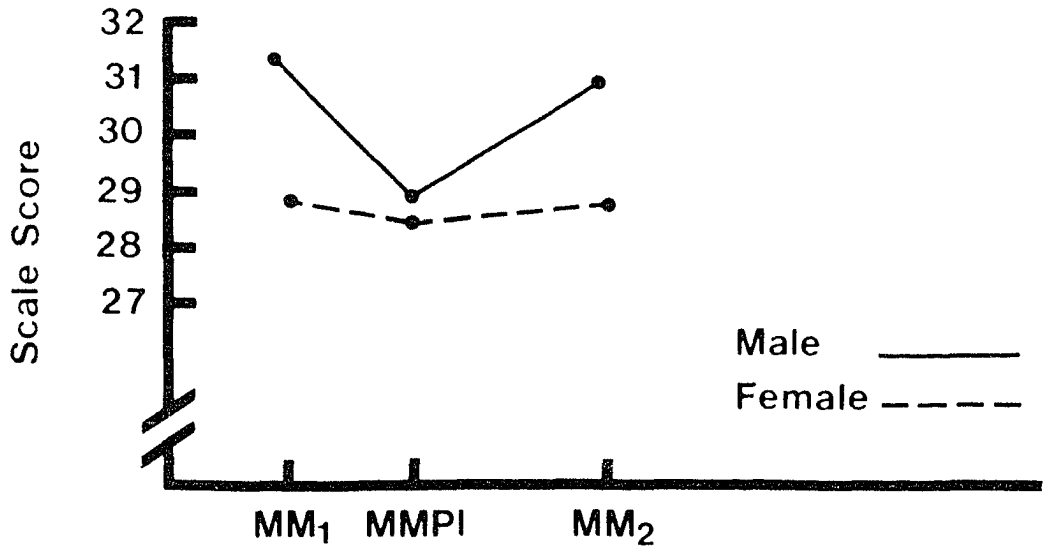


Figure 3. Scale Pd Interaction Analysis.

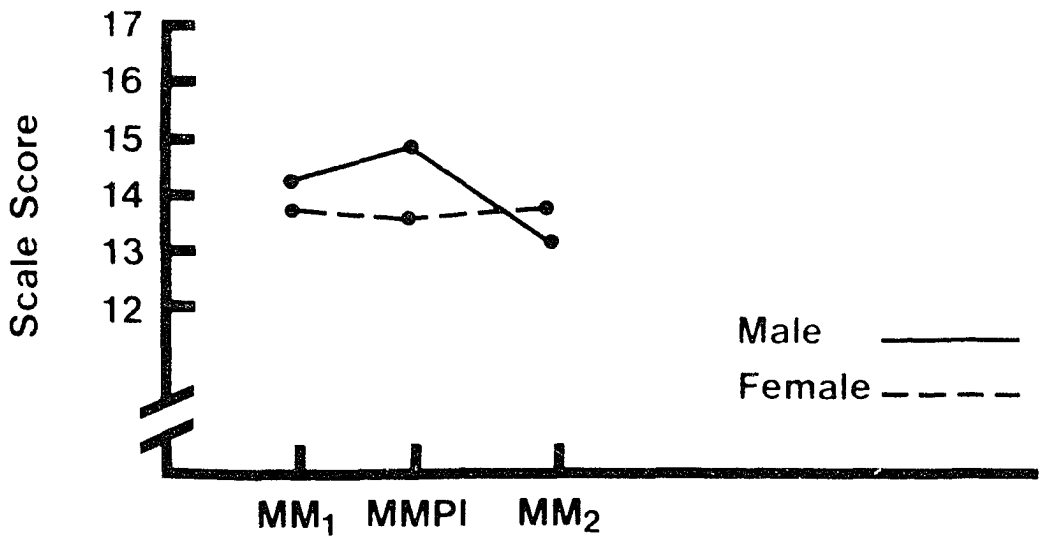


Figure 4. Scale Pa Interaction Analysis.

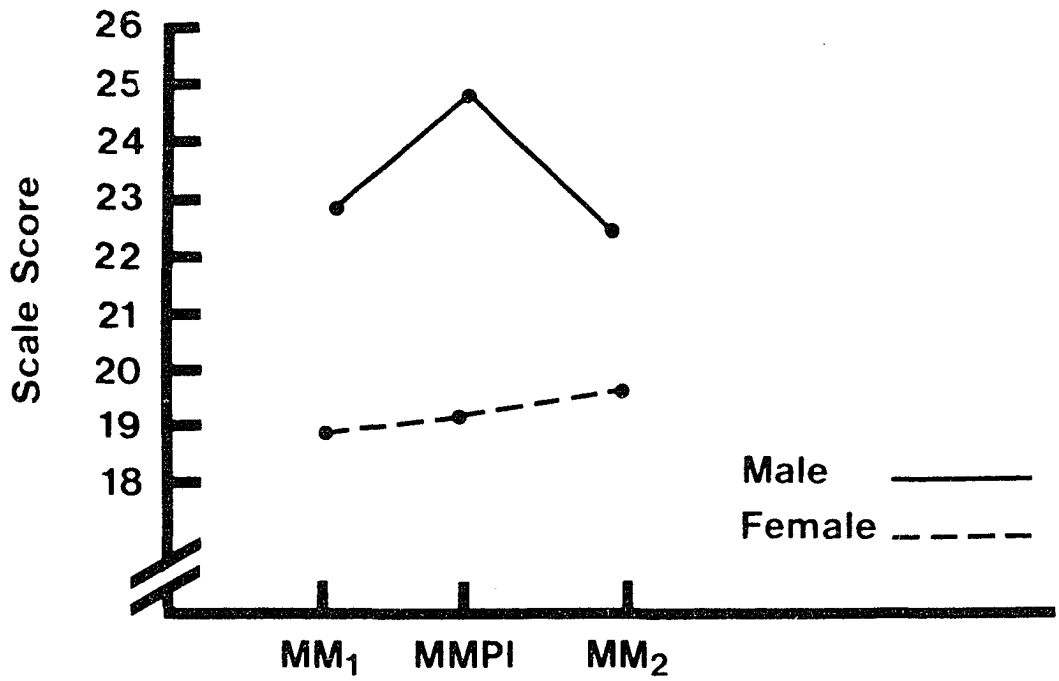


Figure 5. Scale Ma Interaction Analysis.

TABLE 12

Correlations between Comparable Scales for All Combinations of the Three Tests

Scale	MM_1 & MMPI	MMPI & MM_2	MM_2 & MM_1
L	.64	.74	.74
F	.66	.83	.80
K	.87	.88	.87
1	.80	.87	.84
2	.82	.89	.90
3	.69	.82	.83
4	.79	.82	.85
6	.77	.85	.78
7	.79	.87	.85
8	.78	.79	.82
9	.64	.66	.75
	Median r	Median r	Median r
	.78	.83	.83

TABLE 13

Diagnostic Impression Agreement between the Mini-Mult and the Standard MMPI at the General Category Level

	Male	Female	Total
Total Matches in all Categories	77% 23 out of 30	50% 15 out of 30	63% 38 out of 60
Psychotic Category Matches	85% 17 out of 20	62% 8 out of 13	76% 25 out of 33
Neurotic Category Matches	100% 3 out of 3	22% 2 out of 9	42% 5 out of 12
Personality Disorder Category Matches	40% 2 out of 5	67% 4 out of 6	55% 6 out of 11
Essentially Normal Category Matches	50% 1 out of 2	50% 1 out of 2	50% 2 out of 4

TABLE 14

Diagnostic Impression Agreement
between the Mini-Mult and the Standard MMPI
for Intra-Category Classifications

	Male	Female	Total
Total Hits in All Categories	50% 15 out of 30	27% 8 out of 30	38% 23 out of 60
Psychotic Category Hits	55% 11 out of 20	23% 3 out of 13	42% 14 out of 33
Neurotic Category Hits	67% 2 out of 3	22% 2 out of 9	33% 4 out of 12
Personality Disorder Category Hits	20% 1 out of 5	33% 2 out of 6	27% 3 out of 11
Essentially Normal Category Hits	50% 1 out of 2	50% 1 out of 2	50% 2 out of 4

DISCUSSION

The acceptance of the Mini-Mult as an effective short form of the standard MMPI will depend to a large degree on its ability to record scale scores comparable to those produced by the longer form. In this study significant differences between the means of the comparable scales of the MM_1, the standard MMPI and MM_2 were found. Tables 2, 3, 7, 8 and 11 show where the differences are found. Thus, the hypothesis that no significant differences exist between the comparable scales of the three tests for this population must be rejected. This study, as revealed in the above named tables, shows the MM_1 and MM_2 significantly underestimating the scale scores on the validity scale F, and significantly overestimating the scale scores on validity scale K and clinical scale 4 (Pd). On scale 6 (Pa) the MM_2 scores significantly underestimated the standard MMPI scores. On scale 9 (Ma), MM_1 significantly underestimated the standard MMPI. The only significant difference between the means of MM_1 and MM_2 scale scores was on scale 6 (Pa). In this case MM_2 underestimated the standard MMPI scale scores while there was no significant difference between MM_1 and the standard MMPI scale score.

There were five significant interactions of male-female scores with tests. These are recorded in Figures 1 through 5. On scales 2, 3, 4, 6 and 9 we observe a significantly different response pattern to the three tests by the males and females of the group. On other scales the response patterns of males and females were comparable.

The product-moment correlation coefficients listed in Table 12 show a moderately high degree of correspondence between the three tests. The median coefficient for MM_1 and the standard MMPI is a little lower than the median coefficient for MM_2 and the standard MMPI. This difference, however is not significant. Only four of the eleven coefficients for the former comparison are below .70, however, and the median coefficient is .78. The median coefficient for the latter comparisons is .83.

The lower coefficient for MM_1 and the standard MMPI correlation may be accounted for because of the contextual difference, since MM_1 was independently administered where MM_2 was extracted from the standard MMPI. Perkins and Goldberg (1964), however, have done extensive research in contextual effects on abbreviated scales of the MMPI. They have come to the conclusion that this type of contextual change does not significantly affect the functioning of the scales. The results of this study do not differ greatly from Kincannon's (1968)

findings at this point. For correlations between comparable scales in Kincannon's study, the median coefficient for the extracted Mini-Mult and standard MMPI was .90 and the median coefficient for the independently administered Mini-Mult and the standard MMPI was.79.

The MM_1 and MM_2 correlations may be looked upon as test-retest reliability coefficients. When this is done the results are similiar to those found by Lichtenstein and Bryan (1966) in their study of short term stability of MMPI profiles. Rosen (1953) in an early test-retest study found that the clinical and validity scales showed stability coefficients ranging from .55 to .88 with a median of .81. Rosen (1953) also suggested that where two population samples are compared and divergent results are found, it may be due to different diagnostic composition of the two samples.

Tables 13 and 14 list the diagnostic impression agreements which were reported by the three concurring psychologists on MM_1 as compared to the standard MMPI. In Table 13 diagnostic impression matches at the general category level are recorded, while in Table 14 intra-category hits are listed. The same diagnostic impression was given on both MM_1 and the standard MMPI for 23 out of the 60 subjects or 38%. General category

matches were reported for 38 out of the 60 subjects or 63%. The highest general category match accuracy was achieved in the psychotic category with 25 out of 33 category matches or 76%. Kincannon (1968) has suggested that the amount of error that is acceptable for practical purposes is certainly a matter of judgment, and has to be determined by the person or the organization making the judgment.

The diagnostic impressions were determined largely by the high-point code configuration of the profile for each subject. In this study it was found that 45% of the high points between the MM_1 and the standard MMPI were the same. This is comparable to certain test-retest studies made in the stability of MMPI scores (Kincannon, 1968; Lichtenstein and Bryan, 1966; Rosen, 1953). This factor of error variance in the long form MMPI test-retest situation is not fully considered by some investigators (Kramer and Francis, 1965; Mumpower, 1964; Silverstein, 1965) who have critized certain abbreviated test forms. Thus, it may be concluded that all error variance found in diagnostic impression decisions is not due alone to the abbreviation of the test, but to test-retest variance as well.

This study supports Kincannon's (1968) findings that the Mini-Mult significantly underestimates the higher scores of scales F and 9. However, unlike

Kincannon's study, other significant differences were also found. Both the MM_1 and MM_2 overestimated the scale scores on scales K and 4. Differences were also found on scale 6. Lacks' (1970) first study using an acute psychiatric population sample supported Kincannon's findings in scale mean differences. However, her second study (Lacks and Powell, 1970) using a sample population of hospital attendant applicants found significant differences between the means of scales 6, 7 and 9.

The product moment correlations between comparable scales were found to be very similiar in this study to those found by Lacks (1970) and Kincannon (1968). Lacks found in her first comparability study between the MMPI and the extracted Mini-Mult a product-moment correlation range of .68 to .89 with a median of .83. Kincannon's study reported for the same comparable tests a range from .80 to .96 with a median of .90. There is some consistency of Mini-Mult-MMPI correlational values found across different populations. Some significant differences between scale score means are found in non-psychiatric populations, while psychiatric samples studied to date have fewer significant differences. The present study supports this conclusion because the most accurate diagnostic impression decisions provided

by the Mini-Mult were found in the psychotic category. It is evident, however, that there is a need for additional comparisons of the Mini-Mult with the standard MMPI in other clinical and non-clinical populations.

In Kincannon's research the Mini-Mults were administered orally. In the present study all Mini-Mults were administered by the booklet form. Several studies of booklet verses oral or taped forms of the MMPI, indicate that the two forms are equivalent (Urmer, Black and Wendland, 1960; Windle, 1954; Windle, 1955; Wolf, Freinek and Shaffer, 1964). The only differences in these studies were attributed to test-retest effect.

The implications of the present study regarding the use of the Mini-Mult would support the conclusions of Kincannon (1968) that where the longer instrument is not available or where time is a factor, the short form would serve a useful purpose.

REFERENCES

Armentrout, James A. and Rouzer, David L. Utility of the Mini-Mult with Delinquents. Journal of Consulting and Clinical Psychology, 1970, 34, 450.

Borgatta, E. F. A short test of personality: The Behavioral Self-Rating form. Psychological Reports, 1964, 14, 275-284.

Dahlstrom, W. G. and Welsh, G. S. An MMPI Handbook: A Guide to Clinical Practice and Research. Minneapolis: University of Minnesota Press, 1960.

Foulds, G. A., Caine, T. M., and Creasy, M. A. Aspects of extra and intro-punitive expression in mental illness. Journal of Mental Science, 1960. 106, 599-610.

Gruenberg, Ernest M. (Chairman), Report of the Committee on Nomenclature and Statistics of the American Psychiatric Association. DSM-II, Diagnostic and Statistical Manual of Mental Disorders. American Psychiatric Association, Washington, D. C., 1968.

Hathaway, S. R. and McKinley, J. C. Minesota Multiphasic Personality Inventory Manual. New York: The Psychological Corporation, 1967.

Jorgenson, C. A. Short form of the MMPI, Austrailian Journal of Psychology, 1958, 10, 341-350.

Kincannon, J. C. Prediction of the standard MMPI scales scores from 71 items: The Mini-Mult. Journal of Consulting and Clinical Psychology, 1968, 32, 319-325.

Kramer, Ernest and Francis, Paul S. Errors in intelligence estimation with short forms of the WAIS. Journal of Consulting Psychology, 1965, 29, 490.

Lichtenstein, Edward and Bryan, James H. Short-term stability of MMPI profiles. Journal of Consulting Psychology, 1966, 30, 172-174.

Lacks, Patricia B. Further investigation of the Mini-Mult. Journal of Consulting and Clinical Psychology, 1970, 35, 126, 127.

Lacks, Patricia B. and Powell, Barbara J. The Mini-Mult as a personnel screening technique: a preliminary report. Psychological Reports, 1970, 27, 909-910.

Mumpower, D. L. The fallacy of the short form. Journal of Clinical Psychology, 1964, 20, 111-113.

Perkins, J. E. and Goldberg, L. R. Contextual effects of the MMPI. Journal of Consulting Psychology, 1964, 28, 132-140.

Rosen, A. Test retest stability of MMPI scales for a psychiatric population. Journal of Consulting Psychology, 1953, 17, 217-221.

Silverstein, A. B. "Validity" of short-form intelligence tests. Journal of Consulting Psychology. 1965, 29, 392-393.

Urmer, A. H., Black, H. O. and Wendland, L. V. A comparison of taped and booklet forms of the MMPI. Journal of Clinical Psychology. 1960, 16, 33-34.

Windle, C. Test retest effect on personality questionaires. Educational Psychological Measurement, 1954, 14, 617-633.

Windle, C. Further studies of test-retest effect on personality questionaires. Educational Psychological Measurement, 1955, 15, 246-253.

Wolf, Sidney; Freinek, W. R. and Shaffer J. Comparability of complete oral and booklet forms of the MMPI. Journal of Clinical Psychology, 1964, 20, 375-378.

APPENDIX A

Means and Standard Deviations of the Scale Scores for the Administrations of the Mini-Mult, the Standard MMPI and the Mini-Mult Extracted from the Standard MMPI

APPENDIX A

Means and Standard Deviations of the Scale Scores for the Administrations of the Mini-Mult, the Standard MMPI and the Mini-Mult Extracted from the Standard MMPI

	MM_1		MMPI		MM_2	
Scale	M	SD	M	SD	M	SD
L	4.13	2.14	3.98	2.33	4.40	2.23
F	8.63	5.18	11.85	6.61	8.30	4.83
K	12.72	4.86	11.08	5.49	12.52	4.51
1	17.00	5.51	16.40	5.62	16.88	5.55
2	29.23	6.79	28.65	7.64	29.23	6.71
3	27.48	5.42	26.73	5.52	27.22	5.15
4	29.92	4.45	28.63	4.85	29.52	4.20
6	14.02	3.66	14.10	4.23	13.33	3.46
7	36.25	7.69	35.10	7.44	35.90	7.76
8	36.83	9.15	36.82	9.47	36.52	8.42
9	20.72	3.68	21.87	5.37	21.00	3.20

APPENDIX B

Mean Scale Scores for Males and Females on the Three Forms of the Test

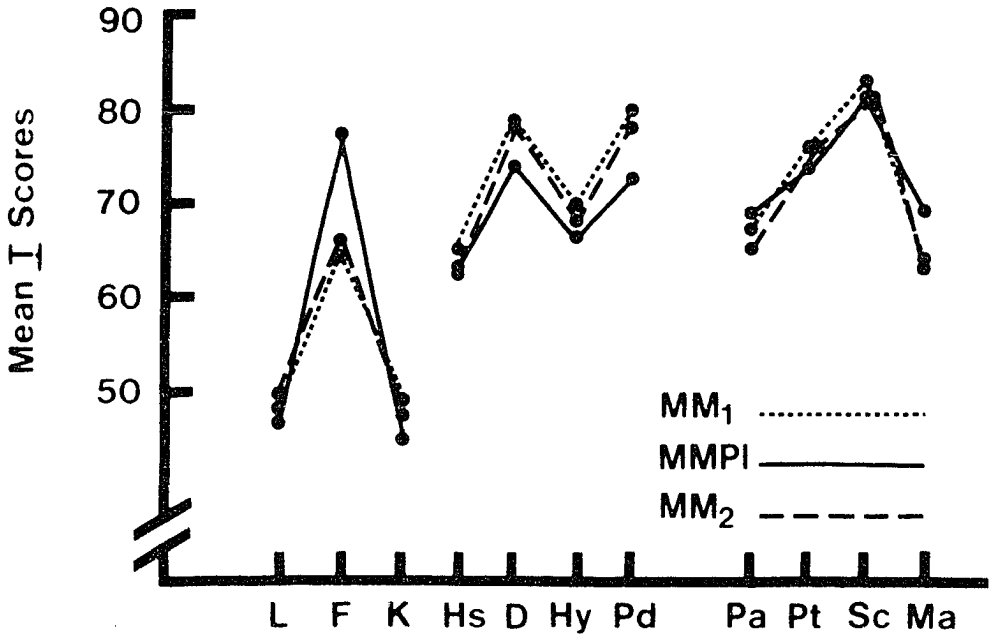
APPENDIX B

Mean Scale Scores for Males and Females on the Three Forms of the Test

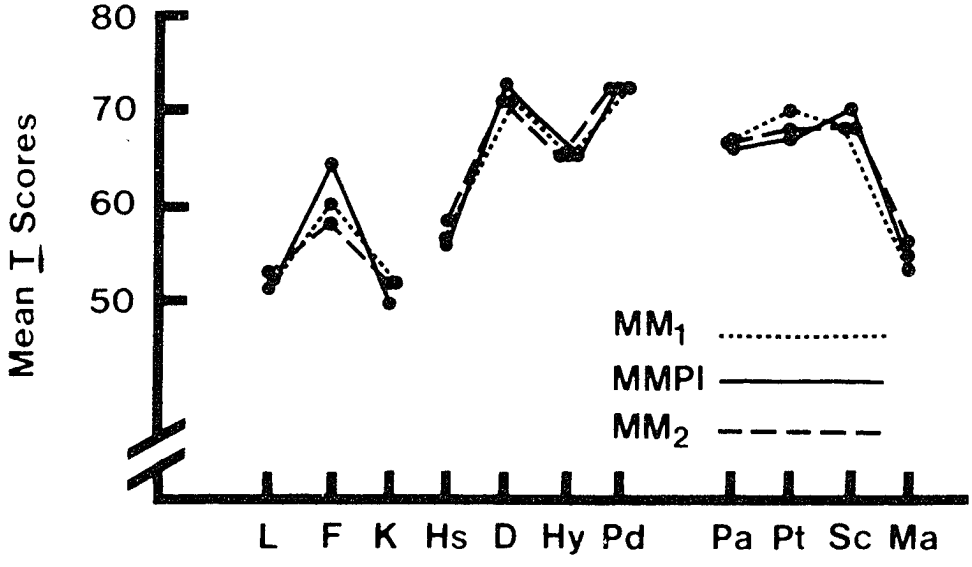
	Male			Female		
Scale	MM_1	MMPI	MM_2	MM_1	MMPI	MM_2
L	3.83	3.43	4.00	4.40	4.53	4.80
F	9.23	14.37	10.20	7.37	9.33	6.40
K	12.07	9.70	11.57	13.37	12.47	13.47
1	17.17	16.50	16.60	16.83	16.30	17.17
2	28.77	26.90	28.67	29.70	30.40	29.80
3	27.43	25.53	26.80	27.53	27.93	27.63
4	31.23	28.93	30.67	28.60	28.40	28.37
6	14.27	14.67	13.07	13.77	13.53	13.60
7	35.47	34.47	35.57	37.03	35.73	36.23
8	39.37	38.57	38.60	34.30	35.07	34.43
9	22.80	24.73	22.47	18.63	19.00	19.53

APPENDIX C

Mean T Scores of Males and Females for Independently Administered Mini-Mult (MM_1), Standard MMPI and the Extracted Mini-Mult (MM_2)



Mean T Scores of males for independently administered Mini-Mult (MM_1), standard MMPI and the extracted Mini-Mult(MM_2).



Mean T Scores of females for independently administered Mini-Mult(MM_1), standard MMPI and the extracted Mini-Mult(MM_2).