

AN ABSTRACT OF THE THESIS OF

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This study examined the statistical and clinical differences between 40 men and 40 women when administered an oral and a written version of the MMPI-2. The oral version was presented face to face in a one-on-one setting, while the written version was presented in the standard method. The presentations (written vs. oral) were administered in a counterbalanced order, with 20 subjects in the same group (e.g., males, written then oral) as to balance the practice effect. Six male graduate student examiners were used to administer the oral version, so as not to subject the examinees to a rater bias.

Multivariate analysis of variance was conducted to determine statistical and clinical differences between the four groups (i.e., first presentation: male/written, male/oral, female/written and female/oral) on the 13 scales studied (i.e., three validity and ten clinical scales). The Tukey post hoc test was calculated where statistical differences were discovered in the presentations. Significant differences were found on Scale F (Infrequency), Scale-1 (Hypochondriasis), Scale-2 (Depression), Scale-3 (Hysteria), Scale-4 (Psychopathic Deviate), Scale-5 (Masculinity-Femininity), Scale-6 (Paranoia), Scale-8 (Schizophrenia), Scale-9 (Hypomania) and Scale-0 (Social Introversion); however, these differences were also determined to be of no clinical significance. These differences are discussed in Chapters 3 (statistical) and 4 (clinical).

The results of this study tend to support previous studies on the MMPI (original version) by Dillon and Ward (1989), Kendrick and Hatzenbuehler (1982), Newmark (1971), Reese, Webb and Foulks (1968), and Wolf, Freinek and Schaffer (1964). This study demonstrated a pattern of statistical similarity in utilizing an oral version of the MMPI-2, as was true for the MMPI. It is suggested more research be conducted in this

area to determine exactly what causes some of these statistical differences, even though they may not be clinically significant.

AN ORAL VERSUS WRITTEN PRESENTATION
OF THE MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY-2

A Thesis

Presented to

The Division of Psychology and Special Education

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In Partial Fulfillment

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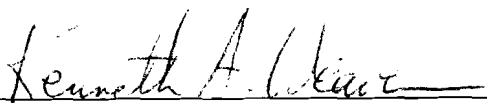
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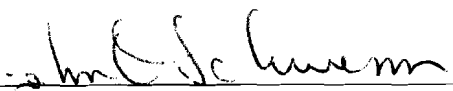
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The list of people I am most indebted to must begin with my father and mother, Frank and Elaine Edwards. These two terrific people continued to give when giving no longer was easy. Their love for me and respect for my own choices, some of them bad ones, were courageous and insightful. Perhaps most importantly was the ability of both mom and dad to simply let me go my own way to find my own paths in my life, which they never mistook for their own.

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CHAPTER 1

INTRODUCTION

The purpose of this study was to determine the comparability of an orally presented version of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) and the standard, written method. Such comparability has been shown with the original MMPI; however, a review of the MMPI-2 by Archer (1992) noted that, "Although the total lengths of the MMPI (566 items) and MMPI-2 (567 items) are almost identical, substantial changes have occurred on the item level" (p. 558).

Review of MMPI and MMPI-2

The original MMPI was developed in 1943 by Starke Hathaway and J. Charnley McKinley at the University of Minnesota Hospitals. The MMPI was developed to aid in assigning psychodiagnostic labels during diagnostic assessment with the hope of providing a more efficient way of arriving at appropriate psychodiagnostic labels. Up to that time, most personality tests were constructed using a logical keying approach. Hathaway and McKinley utilized the empirical keying approach when they constructed the various MMPI scales. This approach required one to determine empirically, items that differentiate between groups of subjects and was an innovation at that time.

The MMPI was revised as the MMPI-2 in 1989 due to serious concerns about the adequacy of the original nonpsychiatric standardization sample. The original sample was made up of 724 persons visiting relatives or friends at the University of Minnesota Hospitals. The sample was primarily one of convenience, and little effort was made to assure it was representative of the United States population. There was also concern about the item content of the MMPI being out of date. Even grammar and punctuation were problems with the MMPI. There was also concern about the item pool not being broad enough to allow assessment of many characteristics judged to be important to many test users. In 1970, the entire MMPI Symposium was devoted to the topic of revision, and in 1982, the University of Minnesota Press appointed The Restandardization

Committee (James Butcher and Auke Tellegen of the University of Minnesota, S. Grant Dahlstrom of the University of North Carolina, and John Graham of Kent State University) which recommended the following revisions:

The MMPI Restandardization Committee decided that maintaining the integrity of the instrument during its restandardization could best be accomplished by keeping the MMPI validity and standard scales relatively intact. Otherwise, the half-century of research supporting the use of these scales would not be relevant to the restandardized versions: Items comprising the validity and standard scales, except for a few objectionable items on four scales (4 items on F, 1 on Hs, 3 on D, 4 on Mf and 1 on Si) [sic] were retained in the MMPI-2. New items measuring additional clinical problems and applications were added to the inventory, replacing the items from the original booklet that did not score on the validity or standard scales. Thus, broader content coverage, allowing for new scale development, was accomplished without altering the original scales.

To modernize the MMPI, committee members and their collaborators collected extensive normative and clinical data using Form AX with adults and Form TX with adolescents. Data collected during the restandardization allowed committee members to assess what changes needed to be made in the instrument. These data also served as validity information for both the original and the newly developed scales. The decision to develop a separate version for adolescents was also based on data collected during the project. The MMPI Restandardization Committee established several major goals for the project:

1. Revise and modernize the MMPI items by deleting those that are objectionable, nonworking, or outdated, and replacing them with items addressing contemporary clinical problems and applications. Include items on the original validity and standard scales in the first part of the booklet.
2. Ensure continuity with the original instrument by keeping the MMPI validity,

standard, and several supplementary scales virtually intact. Studies show that the MMPI-2 versions of these scales are comparable to the original MMPI versions and thus can be considered equivalent scales (Ben-Porath & Butcher, 1989a; 1989b).

3. Develop new scales to address problems that were not covered in the original MMPI.
4. Collect new, randomly solicited samples of adults and adolescents, representative of the population of the United States to develop age-appropriate norms.
5. Develop new normative distributions for the adult and adolescent scales that would better reflect clinical problems and would resolve the problem of nonuniformity in percentile classification that occurred with the original MMPI scales (i.e., T-scores at a given value were not equivalent percentiles across scales).
6. Collect a broad range of clinical data for evaluating changes to be made in the original scales and for validating the new scales (Butcher & Williams, 1992 p. 6).

The MMPI-2 normative sample consists of 2,600 subjects (1,462 women and 1,138 men, ages 18 and older), sampled from seven regions in the United States (California, Minnesota, North Carolina, Ohio, Pennsylvania, Virginia, and Washington). The normative sample was representative for demographic characteristics such as ethnic group membership and gender. Normative subjects were randomly solicited, initially contacted by letter, and asked to come to a prearranged testing site for completion of the test battery.

Eighty-two of the 550 items were rewritten. The MMPI and MMPI-2 both consist of the 4 validity scales and 10 clinical scales. This study compared only these scales and did not include the supplementary scales.

The Validity Scales

The Cannot Say score is the number of items omitted by the examinee. A large number of omitted items can lead to lowered scores on other scales and perhaps even invalidate a protocol if greater than 30.

The Scale-L was constructed to detect an unsophisticated attempt on behalf of the examinees to present themselves in a favorable light. There are 15 Scale-L items that deal with minor flaws and weaknesses most people are willing to admit to, but individuals deliberately attempting to present themselves in a favorable light are not usually willing to admit to even these minor shortcomings.

The Scale-F has 64 items, and high scores here are associated with high clinical scales as well, especially with Scales 6 (Paranoia) and 8 (Schizophrenia). This scale detects deviant or atypical ways of responding to the items on the test. The Scale-F can also indicate the degree of psychopathology.

The Scale-K was developed to satisfy the need to detect more sophisticated test-taking distortions by the examinee, such as denial of psychopathology, presenting oneself in a favorable light, or presenting a malingering or false psychopathology. A statistical procedure also was developed for correcting some of the scores on the clinical scales. Also, moderate K score elevations may indicate ego strength or psychological resources.

The Clinical Scales

The 10 Clinical Scales determine psychopathology with higher scores indicating abnormality. In one study, Butcher and Williams found the following change for the MMPI-2's "clinical range" from the MMPI as necessary.

In clinical studies with the MMPI-2, a T -score of 65 proved to be the optimal score level for separating known clinical groups from the MMPI-2 normative sample (Butcher, 1989c; Keller & Butcher, 1991). Consequently, a T -score of 65 or greater was chosen to demarcate the "clinical range" on the MMPI-2 (Butcher et al., 1989). On the MMPI-2, a T -score of 65 falls uniformly at the 92nd percentile for the eight clinical scales and the MMPI-2 content scales (Butcher & Williams, 1992, p. 8).

Scale 1 (Hypochondriasis) was designed to assess denial of good health and the admission of a variety of somatic symptoms. All the items on this scale deal with somatic concerns or with general physical condition.

Scale 2 (Depression) deals with assessing symptomatic depression and the various aspects of depression such as a denial of happiness and personal worth, psychomotor retardation and withdrawal from and lack of interest in one's surroundings. This scale also covers other complaints such as physical, worry or tension, denial of impulses, difficulty in controlling one's own thought processes and religious fervor. This scale seems to be an excellent index of examinees' discomfort and dissatisfaction with their life situations.

Scale 3 (Hysteria) was developed to identify patients who utilize hysterical reactions to stressful situations. Hysterical reaction is characterized by involuntary psychogenic loss or disorder of function. The items deal with a general denial of physical health and a variety of specific somatic complaints as well as a general denial of psychological or emotional problems and of discomfort in social situations.

Scale 4 (Psychopathic Deviate) was developed to identify patients with a psychopathic personality or antisocial personality. The items in this scale cover topics including absence of satisfaction in life, family problems, delinquency, sexual problems and difficulties with authorities. Scored items include admissions of maladjustment and of social poise and confidence.

Scale 5 (Masculinity-Femininity) was developed to originally identify homosexual males who may not yet have come to terms with their own sexuality. Some of the items in Scale 5 deal with frankly sexual material, but most are not sexual in nature and cover a wide range of topics including interests in work, hobbies and pastimes, worries, fears and sensitivities, social activities, religious preferences and family relationships.

Scale 6 (Paranoia) was developed to identify patients with paranoid symptoms such as ideas of reference, feelings of persecution, grandiose self-concepts, suspiciousness, excessive sensitivity and rigid opinions and attitudes. This scale produces relatively few false positives, and persons scoring high on this scale usually have paranoid symptoms. Some patients with noticeable paranoid symptoms are able to achieve average scores on

Scale 6. The questions in this scale deal with psychotic behaviors as well as diverse topics such as sensitivity, cynicism, asocial behavior, excessive moral virtue, rigidity and complaints about other people.

Scale 7 (Psychasthenia) was a term popular when the MMPI was first developed, and the closest label today may be compulsive-obsessive disorder. Patients who endorsed these items had thinking characterized by excessive doubts, compulsions, obsessions and unreasonable fears. Many of the items in this scale deal with uncontrollable or obsessive thoughts, feelings of fear and/or anxiety and doubts about one's own ability. Feelings of unhappiness, physical complaints and difficulties in concentration are also represented here.

Scale 8 (Schizophrenia) was developed to identify patients diagnosed with schizophrenia as well as a heterogeneous group of disorders characterized by disturbances of thinking, mood and behavior. Examinees who endorse these items may have misinterpretations of reality, delusions and hallucinations, ambivalent or constricted emotional responsiveness and perhaps behavior that may be withdrawn, aggressive or bizarre.

Scale 9 (Hypomania) was originally developed to identify patients exhibiting elevated mood, accelerated speech and motor activity, irritability, flights of ideas and brief periods of depression. Some of the items deal with clearly hypomanic disturbances while other items cover topics such as family relationships, moral values and attitudes and physical or bodily concerns.

Scale 0 (Social Introversion) was designed to assess a subject's tendency to withdraw from social contacts and responsibilities. The items in this scale are of two general types. One deals with social participation, and the other group deals with general neurotic maladjustment and self-depreciation.

Literature Review

A study of the criterion-related validity, stability, and equivalence of the MMPI and

the MMPI-2 was conducted by Rojdev, Nelson, Hart and Fercho (1994). They had the following to say about comparing the MMPI to the MMPI-2 using the Symptom Checklist-90-Revised (SCL-90-R), which is a 90-item, self-report multidimensional measure designed to assess the psychological symptoms of psychiatric and medical patients:

The differential criterion-related validity of the MMPI and MMPI-2 and their stability over a 4-month period of time were examined in a university population by correlating the clinical scales with their counterpart SCL-90-R factors. Fair to moderate correlations were found on all eight paired MMPI scales and SCL-90-R factors, while only two of eight MMPI-2/SCL-90-R pairings were found to be correlated significantly. Further analyses, however, found no significant differences between these MMPI/SCL-90-R and MMPI-2/SCL-90-R correlations. Adequate stability was found between MMPI-2 and SCL-90-R pairs over 4 months, except for the MMPI-2 D scale with the SCL-90-R Depression factor. Several issues related to the equivalency between the MMPI and the MMPI-2 were discussed (p. 361).

The MMPI was reported to be one of the most widely used tests in a clinical setting as of 1982, according to a national survey at that time. "The enduring and steadily increasing popularity of the MMPI can be seen in the fact that its total mention rank went from 15.5 in 1946 to 7.5 in 1969, 6 in 1959, and 2 in 1982" [sic] (Lubin, Larsen, & Matarazzo, 1984, p. 451). Currently, there is an oral form of the MMPI-2 on audio tape for clinicians to administer to clients. This study, however, will compare a live examiner who reads the items, one by one to the individual examinee.

Other studies on the original version of the MMPI were done to compare an oral and a booklet form. Reese, Webb and Foulks (1968) found that in administering the MMPI in the two forms, (i.e., oral and booklet) to 40 hospitalized male psychiatric patients, no significant differences occurred for any of the scales. The authors went on to say, "In the present study, it was further noted that the oral statements retained S's attention. This was

particularly helpful with the more confused, older, and less educated patient. . . . Reliable agreement between oral and booklet form was found for all scales" (p. 437).

A study by Newmark (1971) compared the oral form of the MMPI presented by a live examiner, and the booklet form stated:

It should be noted that all correlations were significantly different from zero ($p < .05$) and that no significant differences were observed when using Student's [sic] t to compare the MMPI scale means of the administrations of the two forms. In addition, these stability coefficients are relatively equivalent to those obtained in studies using only the booklet form of the MMPI (3, 4, 5) (p. 797).

Kendrick and Hatzenbuehler in 1982 used the oral, live examiner on the MMPI. This study used 40 participants (20 men and 20 women), with 20 participants administered half of the questions each in written and oral forms, and the other participants taking the test in its standard form. The participants ranged from 18 to 42 years of age. The results indicated Scales 6 and 9 (Paranoia and Hypomania, respectively) were statistically different, with oral participants scoring in a more pathological direction than the control group on the same written half administered items. The authors noted "clinical significance was minimal . . . which suggests that clinicians who administer the MMPI orally should expect results comparable to those obtained from standard administrations" (p. 788).

Wolf, Freinek, and Shaffer (1964) compared complete oral to booklet forms and found "no significant mean differences between forms within any group on any of the standard MMPI scales, and that all between-form correlations, with the exception of the ? scale in Group II, were significant at the .01 level or beyond" (p. 376). Another study on the validation of an MMPI short form with both literate and illiterate patients found similar results. "Profile comparisons of the MMPI with the IRF (Improved Readability Form) given to literates or extracted from the full MMPI yielded only small differences" (Dillon & Ward, 1989, p. 327).

Significance of Present Study

There are several reasons why this study is important to the field of psychology. No one has yet compared the MMPI-2 in an oral version to the standard written version. The MMPI and the MMPI-2 are among the most commonly administered tests by clinical psychologists today. Many people taking the MMPI-2 may benefit from taking the test orally, due to poor reading ability, poor vision or some kind of reading disorder such as dyslexia. Clinicians would benefit knowing how valid and reliable the results of an orally administered MMPI-2 would be. Also, the speed of administration to some subjects would be markedly better. A well-trained clinician could gain clinical knowledge by observing subtle responses from the participant as items were read aloud and answered. Administering only the cassette version of the MMPI-2 would not yield the same valuable clinical knowledge that a face-to-face administration could yield.

CHAPTER 2

METHOD

Sample

The sample for this experiment was 80 (40 men and 40 women) college undergraduate and graduate students from Emporia State University. The ages ranged from 18 to 42 ($M = 19.93$; $SD = 7.39$). The students were obtained by signing a roster posted outside the Psychology and Special Education Office in Visser Hall.

Instrument

The instrument used for this experiment was the MMPI-2, which is published by the University of Minnesota Press and is distributed by National Computer Systems, Inc., (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer 1989). "Graham (1988) correlated MMPI-2 scores with partner ratings for 822 couples in the MMPI-2 normative sample and for male and female psychiatric patients. . . . the pattern of correlations for both samples was suggestive of convergent and discriminant validity for the MMPI-2 scales" (Butcher & Graham, 1994, p. 137).

As far as reliability for the basic scales, Butcher et al. (1989) found "data on the test-retest reliability and internal consistency of the basic scales in the profile are provided in Appendix D. These values range from .67 to .92 for a sample of 82 men, and from .58 to .91 for a sample of 111 women" (p. 31).

Scoring keys are used manually and by computer to obtain the scores for the 10 clinical scales and the 3 validity scales. Higher T-scores are positively correlated with pathology in participants taking the MMPI-2. Scoring keys are also available for the sets of supplementary scales, content scales and subscales. For the manual scoring, each scoring key is placed over the answer sheet and the darkened scoring spaces that appear in the boxes are added together to total the score on that particular scale. These raw scores are placed on the answer sheet and then added to a K correction (if necessary) and then converted to a T-score that is finally plotted upon the profile sheet. Separate

sheets are available for men and women.

The scores plotted on the basic profile of the MMPI-2 are based on a set of scales derived by Hathaway and McKinley and modified to some extent in the restandardization of the inventory. . . . They are organized into two sets, validity indicators and clinical measures, and except for the Cannot Say score, are plotted and drawn separately in the individual profile (Butcher et al., 1989, p. 7).

The range of scores are 0 to 35 for raw scores and 30 to 120 for corrected T -scores. A cutoff T -score of 65 notes the demarcation for clinical significance.

Procedure

The procedure used for administering the standard booklet version was identical to the procedure used by mental health clinicians in which the student was given a booklet with an answer sheet, a pencil, and told to answer the questions as they applied to the student. The student was encouraged to answer as many of the questions as possible. The oral version was administered one-on-one. The examiner recorded the student's responses. The first 370 items were answered only as all major scales were scored from these items. The remaining items, those numbered above 370, are for additional or supplemental scales, which were not included in this study.

Students participating in this study were scheduled by phone for two separate test administrations. One test administration was using the booklet (standard) form while the other was administered orally and individually. The presentations of the tests were counterbalanced to help negate any sequencing effects and prevent confounding the independent variable. Students were scheduled so that one-half of each gender completed the written form first and one-half first completed the oral form first. The two tests were scheduled one week apart. The written (booklet) form of the test was administered in a group setting, however, the oral administration was administered one on one. The answer sheets were scored individually by the researcher. The examinees were given an opportunity to withdraw from the testing procedures at any time without any penalty.

CHAPTER 3

RESULTS

This study's data from the 13 scales were analyzed using a 2 (gender: men or women) X 2 (administration: written and oral) mixed factor analyses of variance. The Tukey procedure was the post-hoc test used to understand any interaction effect. The between subjects independent variable in this study was gender and the within subjects independent variable was method of administration of the MMPI-2.

The results of the ANOVAs showed significant differences among several scales. Table 1 gives the means and standard deviations of all validity and clinical scales for the written and oral presentations in this study. These results are reported regardless of significance.

Scale F (Infrequency) showed significant differences only in the interaction between gender and administration, $F(1, 78) = 5.49, p < .05$. Although the Tukey test detected no significant differences among the four interaction means, the men receiving the written presentation had the lowest mean and the men receiving the oral presentation had the highest.

Scale-1 (Hypochondriasis) showed a significant difference only in the interaction between gender and administration, $F(1, 78) = 6.30, p < .05$. Although the Tukey result detected no significant difference among the four interaction means, the women receiving the written presentation had the lowest mean and the men receiving the written presentation had the highest mean.

Scale-2 (Depression) showed a main effects difference for gender, $F(1, 78) = 3.98, p < .05$. Scale-2 also showed a significant interaction effect between gender and administration, $F(1, 78) = 15.24, p < .05$. Although the Tukey test detected no significant differences among the four interaction means, the men receiving the oral presentation had the lowest mean and the women receiving the oral presentation had the highest.

Table 1

Means and Standard Deviations of MMPI-2 Scores for Written and Oral Presentations

Scale	Written Presentation		Oral Presentation	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
L (Lie)				
Men	49.37	8.35	52.30	10.34
Women	51.10	10.62	50.97	13.71
F (Infrequency)				
Men	53.92	12.08	51.52	10.42
Women	51.87	12.42	55.67	16.54
K (Subtlety)				
Men	44.92	8.07	46.07	8.60
Women	49.00	8.96	47.57	9.94
1 (Hypochondriasis)				
Men	50.35	12.94	48.35	9.67
Women	46.87	9.27	50.12	11.85
2 (Depression)				
Men	47.15	10.21	43.72	10.93
Women	47.77	8.38	50.92	8.37
3 (Hysteria)				
Men	46.37	11.01	44.05	9.29
Women	45.47	8.66	49.17	10.24

Table 1 (continued)

Scale	Written Presentation		Oral Presentation	
	M	SD	M	SD
4 (Psychopathic Deviate)				
Men	51.22	11.57	46.37	8.01
Women	51.07	13.82	51.12	13.18
5 (Masculinity-Femininity)				
Men	46.30	10.59	41.85	9.92
Women	55.30	12.30	54.32	12.86
6 (Paranoia)				
Men	52.00	14.90	44.75	9.15
Women	50.17	15.94	54.25	10.72
7 (Psychasthenia)				
Men	54.65	11.63	51.60	9.66
Women	53.30	13.18	54.05	10.97
8 (Schizophrenia)				
Men	56.02	15.78	50.37	9.65
Women	50.15	11.95	53.95	11.82
9 (Hypomania)				
Men	60.65	13.99	64.27	12.90
Women	57.22	12.02	54.67	13.55
0 (Social Introversion)				
Men	49.22	9.62	47.12	13.83
Women	47.60	10.46	50.00	10.34

Scale-3 (Hysteria) showed a significant gender by administration, $F(1, 78) = 11.58$, $p < .05$. The Tukey post-hoc test revealed men/oral and women/written means were less than the women/oral mean.

Scale-4 (Psychopathic Deviate) showed a significant main effect of administration, $F(1, 78) = 4.46$, $p < .05$. The gender by administration interaction was also significant, $F(1, 78) = 4.65$, $p < .05$. The men/oral mean was less than the other three means which did not significantly differ from one another.

For Scale-5 (Masculinity-Femininity), gender, $F(1, 78) = 19.81$, $p < .05$, and administration, $F(1, 78) = 9.52$, $p < .05$ were significant. For the main effect of gender, the men scored less than the women. For the main effect of administration, the oral mean was less than the written mean.

Scale-6 (Paranoia) showed a significant gender by administration interaction, $F(1, 78) = 12.10$, $p < .05$. The men/oral mean was less than the men/written and women/oral means.

Scale-8 (Schizophrenia) showed a significant interaction of gender by administration, $F(1, 78) = 12.36$, $p < .05$. The women/written mean was less than 11.58 , $p < .05$. The Tukey post-hoc test revealed men/oral and women/written means were the men/written mean, and the men/oral mean was less than the men/written mean.

Scale-9 (Hypomania) showed a significant main effect for gender, $F(1, 78) = 6.26$, $p < .05$. There was also a gender by administration interaction, $F(1, 78) = 5.12$, $p < .05$. For the gender by administration interaction, the women/oral mean was less than the men/written and the men/oral mean, and the women/written mean was less than the men/oral mean.

The Scale-0 showed a significant interaction between gender and administration, $F(1, 78) = 4.41$, $p < .05$. Although the Tukey revealed no significant differences among the four interaction means, the men receiving the oral presentation had the lowest mean and the women receiving the oral presentation had the highest.

CHAPTER 4

DISCUSSION

The statistical differences reported in Chapter 3 were not clinically significant and thus would be interpreted by a clinician as the same. Holmes, Kixmiller, and Larsen (1989) described clinical significance:

By clinical significance we refer to results that actually constitute meaningful differences (e.g., the difference between a mean IQ of 100 and a mean of 103 may be statistically significant, but in terms of intellectual functioning carries no clinical significance). This distinction was specifically addressed, for example, by Holmes, Fouty, Wurtz, and Burdick (1988) when they noted that the magnitude of differences on a depression measure were so small that in spite of statistical significance the differences were meaningless (i.e., not clinically important). (p. 159)

The differences begin with the Scale-F gender by administration interaction. The Scale-F was designed to detect deviant or atypical ways of responding to the test items. The two extreme means, men/oral and women/oral, may be due to the fact that all oral, face-to-face testing was conducted by men examiners.

The next difference was found in the Scale-1 (Hypochondriasis) with a gender by administration interaction. The 1-scale was developed to identify patients who manifested a pattern of symptoms associated with the label of hypochondriasis, and the differences between the two extreme means (women/written and men/written) may be due to a tendency of a lack of willingness on behalf of the women/written scorers to admit to somatic preoccupation. The women/oral mean (50.12) being 3.25 T-Score points higher than the women/written mean (46.87) shows a greater difference than does the the men/written mean (50.35) which differed by 2 T-Score points to the men/oral mean (48.35). This may also show an honest lack of somatic preoccupation on behalf of these women.

The next difference was with the Scale-2 (Depression) with main effects of gender

and the gender by administration interaction. The Scale-2 was developed to detect a pattern of depression for higher scores, and less severe symptoms, such as a lack of involvement or poor morale for moderate scores. This pattern of differences for the interaction, especially the oral scores, may be explained by the tendency for male adolescents to score 5 to 10 T-score points lower than the adult standardization means. The mean age of the participants was 19.93 years (out of 72 participants sampled), which may be the reason for this men/oral mean (43.72) being 6.28 T-Score points below the T-Score mean (50.00). Also, men may give answers projecting a stronger sense of confidence and self-assuredness to male examiners in a face to face setting.

The next difference in scores was the Scale-3 (Hysteria) with an interaction of gender by administration. The Scale-3 was developed to identify patients with a tendency to react hysterically to stressful situations. The men scored lowest on their oral presentations while the women scored highest on their oral presentations. This difference may be simply due to the fact that higher scores for women in both normal and psychiatric populations are much more common for women than for men (Graham, 1990, p. 58). One possible explanation may be due to a tendency by young men to be seen by others as stronger and more capable than what women may exhibit. The difference between the women/written and women/oral presentations according to this author, may be due to a tendency that some women could find it more difficult to answer male examiners when interviewed face-to-face than when taking a written version of the MMPI-2.

The Scale-4 (Psychopathic Deviate) showed differences with the main effects of administration and an interaction of gender by administration. The men/oral mean was within the moderately low range which is unusual for the college age range and may suggest a tendency for these subjects to be more conventional, conforming and accepting of authority. Another possibility according to this author, may be how the participant may react to the examiner in a face-to-face examination, attempting to conceal certain

antisocial tendencies, which would be consistent with this lower mean.

The next differences were found in the Scale-5 (Masculinity-Femininity) main effect of gender. The moderately low score for the men was somewhat unexpected since college men tend to score somewhat higher than average on this scale. According to this author, this may be due to an attempt to present themselves to male examiners as extremely masculine. The higher scores for the women were also unexpected since college women tend to score somewhat lower than $T=50$ and may be due to the tendency of these college women having rejected traditionally feminine roles. These women's scores were well within the normal range, however.

The Scale-6 (Paranoia) showed an interaction involving gender by administration. The men/oral presentation mean was in the moderately low range, which for normal subjects tends to be associated with more negative characteristics. The higher women/oral presentation mean may be associated with paranoid personality characteristics such as suspiciousness, resentment and being demanding. These women's scores were, however, well within the normal range of scoring. One possible explanation for these differences may be due to these women feeling unsupported by their environment, being very sensitive to what others may think of them and being suspicious of the motives of others.

The next differences were found in the Scale-8 (Schizophrenia) gender by administration interaction. The biggest difference between means occurred with the women/written and the men/written presentations. Both means, however, were well within the normal range.

The next differences were found in the Scale-9 (Hypomania) with the main effects of gender and the interaction of gender by administration. The differences between the women/oral and men/oral means with T -scores of 54.68 and 64.28, respectively, may be interpreted as saying the men are more likely to act out their behavior overtly and having more psychological and physical energy. This may indicate cultural differences in how

men and women are brought up with a tendency for men to be more aggressive and women to "behave themselves" in a more traditional role.

The last differences were found to be in Scale-0 (Social Introversion) with the gender by administration interaction. The differences are difficult to explain, since the genders were represented fairly evenly throughout the spread. The most extreme difference between men/oral and women/oral presentations may indicate cultural differences between the two sexes, since men tend to be rewarded for being more extroverted and sociable as well as competitive and somewhat self-indulgent. This tendency may be somewhat more difficult for women to present to male examiners as well.

Of the statistically significant results for 7 of the 13 scales in this study, 4 of these scales had the men/oral presentation as the lowest mean, yet the data indicate no clinical difference in whether an examinee is given the oral or the written presentation of the MMPI-2. Men and women, however, react statistically different on at least 4 of the 10 clinical scales. Determining participants' test-taking attitudes towards the gender of the examiner would be the next study indicated in this line of research.

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APPENDIX

Consent Form

Read this consent form. If you have any questions, ask the experimenter and he will answer the questions.

You are invited to participate in a study investigating the differences between an oral and written administration of the MMPI-2. The first test you take must be scheduled at least one week prior to taking the second test. You will take one written and one oral version of the MMPI-2.

Information obtained in this study will be identified only by a code number. Your name will be used only to indicate that you participated in the study and received the double credit for this research as approved by the chair of Psychology and Special Education, Dr. Kenneth Weaver.

Your participation in this study is completely voluntary. Should you wish to terminate your participation, you are welcome to do so at any point in the study. Termination of participation will have no bearing on your class standing. There are no risks or discomforts involved in completing this study.

If you have any questions or comments about this study, feel free to ask the experimenter. If you have any additional questions, please contact Lisa Reboy, Division of Psychology and Special Education, 348 Visser Hall, 341-5814.

Thank you for your participation.

 I, _____, have read the above information and have decided to
 (please print name)
 participate.

I understand that my participation is voluntary and that I may withdraw at any time without prejudice after signing this form should I choose to discontinue participation in this study.

 (signature of Participant)

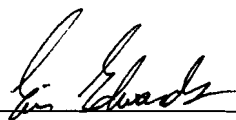
 (date)

 (signature of Experimenter)

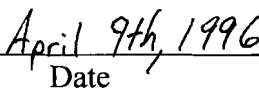
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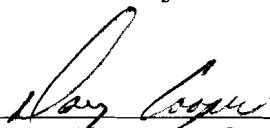
Signature of the Author



Date

Oral Versus Written Presentation of the MMPI-2

Title of Thesis/Research
Project



Signature of Graduate Office
Staff Member



Date Received