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A Comparison of the M-F Scores of American and Philippine Ss on the WAIS and the MMPI

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A COMPARISON OF THE M-F SCORES
OF
AMERICAN AND PHILIPPINE Ss
ON THE
WAIS AND THE MMPI

by
Ellinor Aquio San Diego

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts

July
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LIFE

Ellinor A. San Diego was born in the Philippines, January 12, 1943. She obtained her high-school education from St. Theresa's College, where she graduated in March, 1958. In October, 1961, she received the degree of Bachelor of Arts, with majors in English and Literature, from the Philippine Women's University. She entered the graduate program in Clinical Psychology at Loyola University in September, 1965.

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CHAPTER I

Introduction and Survey of Literature

The volume of the literature on the differences between the sexes indicates the general interest in the salient features involved between the thinking, feeling, and acting of men and women. A survey of the observations, discussions, and experiments involving the use of standardized tests and other dependent variables disclosed that sex differences consistently have been reported for some variables. Several authors (Anastasi, 1958; Book & Meadows, 1928; Goodenough, 1933; and Terman & Tyler, 1947) provide detailed reviews of the differences between the sexes in performance on tests of abilities. General conclusions drawn are: 1) females tend to surpass males in manual dexterity, perceptual speed and accuracy, verbal or linguistic fluency, memory, and artistic and musical aptitudes; and, 2) males tend to excel in speed and gross coordination of bodily movements, spatial orientation, spatial and mechanical aptitudes, mechanical comprehension, and arithmetic reasoning.

Various studies in the field of differences in body build, anatomical characteristics, Physiological functioning, and biochemical composition have also been done. Anastasi's (1958) review of the literature reveals the following findings. Muscular strength shows a consistent difference in favor of males at all ages. From early infancy, males likewise exhibit

greater "muscular reactivity," as illustrated by a stronger tendency toward restlessness and vigorous overt activity. In proportion to his body weight, the human male also reportedly consumes more fuel and produces more energy than the female. In addition, girls not only reach physical maturity earlier, but throughout childhood, they are also farther advanced toward their adult status. Girls are on the average more mature than boys at birth and there is some evidence which indicates that they tend to be born after a shorter gestation period than boys. In addition, studies by both cross-sectional and longitudinal methods have shown that, at each age investigated, girls have attained a greater percentage of their adult height and weight than boys. Girls also reach puberty earlier than boys, the difference averaging from 12 to 20 months in various groups. Finally, at all ages, the female shows more "viability," or capacity to maintain life, than does the male. For example, prenatal and infant deaths are more common among boys than among girls; males are more susceptible to infection and are more often afflicted with physical defects.

Anastasi (1958) suggested that all these physical differences were influential in the sex differences in play activities, interests, and achievement. "It is reasonable to expect, for example, that the greater strength and motility of boys increase the likelihood of their manipulating mechanical objects

and thus indirectly facilitate the development of clearer mechanical concepts. Aggressiveness and dominance in social relations may likewise be initially fostered by greater body size, strength, and endurance (p.463)."

This latter contention seems to be widely supported. For instance, several studies (Bach, 1945; Bandura, Ross, & Ross, 1961, 1963; Bandura, 1965; Durrett, 1959; Sears, 1951; Sears, Lucy, & Alpert, 1965; Siegel, 1956; and Walters, Pearce, & Dahms, 1957) show that boys' behavior and fantasies were significantly more aggressive than girls'. Furthermore, fathers (Aberle & Naegle, 1952) have more definite ideas of what a boy needs for a successful adult role and were concerned if boys lacked responsibility, initiative, sufficient aggressiveness, athletic adequacy, or demonstrated overconformity and childish behavior. The same fathers interviewed (all upper middle class professional and businessmen) expected girls to be "pretty, sweet, affectionate and nice."

Sears, Maccoby, & Levin (1957) interviewed mothers of 379 kindergarten children and found that, although there were no significant differences found between the sexes on mothers' reports of aggression or dependency, boys' mothers were more permissive of aggression toward parents and peers, and used more physical punishment.

A survey of child-rearing practices in 110 primarily

nonliterate cultures (Barry, Bacon, & Child, 1957) disclosed that 82% of the cultures press girls to become nurturant, 35% wanted girls to be more obedient, and 61% press girls more in responsibility training. Eighty-seven percent press boys more to achieve and 85%, to be self-reliant.

The studies cited so far seem to be related to Strong's (1943) findings. Using his standardization sample of high school, college, and adult men and women, he reported that men preferred items which included mechanical and scientific activities; physically strenuous, adventuresome activities; legal, political and army occupations; selling activities; games like chess, poker and billiards; and outdoor work. Men also felt more sure of themselves than women. On the other hand, women preferred activities which included musical, artistic, and literary activities; dealing with unfortunate and disagreeable people; entertaining others, social problems, movies; clerical work; teaching; social work; school subjects such as Bible study, botany, sociology, and philosophy; and planning for the immediate rather than the distant future.

These preferences seem very similar to Gough's Femininity Scale (1952) consisting of items reportedly made up to have "minimum face validity and maximum empirical validity." The scale was divided into the following areas: 1) acceptance of traditional occupational roles and hobbies and acceptance of

clean whitecollar work; 2) social sensitivity; 3) timidity in both social and physical situations; 4) compassion and sympathy; 5) lack of interest in the abstract political and social world; 6) lack of braggadocio and hyperbole; 7) pettiness and irritability; and, 8) niceness and acquiescence.

Specific to intelligence, a survey of the studies done using intelligence tests, particularly the Stanford-Binet, the Wechsler-Bellevue, the Wechsler Adult Intelligence Scale (WAIS), and the Wechsler Intelligence Scale for Children (WISC), reveals varied findings. Some studies (Scottish Mental Surveys, 1933, 1939; Levinson, 1963; and Rigg, 1940) have found no sex differences on intelligence test performance. Most, however, (Gainer, 1962; Goolishian & Foster, 1954; Jastak, 1949; Miele, 1958; Norman, 1953; Silverstein & Fisher, 1960; Terman & Cuneo, 1918; and Terman & Miles, 1936) are in agreement with Wechsler's (1958) findings that, although there were no consistent differences between men and women regarding total IQ scores, there were clear-cut sex differences on certain areas, that is, females excel on certain subtests while males on others.

The present study is concerned with the WAIS Masculinity-Femininity (M-F) score which Wechsler devised in light of findings that, of the 11 WAIS subtests, men did better

on I, A, and PC, while women did better on V, S, and DS.¹
Wechsler (1958) gave the following directions for computing
a WAIS M-F score:

Sum weighted scores on information, arithmetic, and picture completion, and designate total as subject's M score; sum vocabulary, similarities, and digit symbol scores and designate same as F score. Subtract F total from M total; the algebraic difference is the subject's M-F score.

Wechsler also stated that a plus score indicates masculinity and a minus score, femininity. Furthermore, that a score of minus 3.5 or lower is feminine for men and the score of plus 5 or higher is masculine for women.

Miele (1958) used 850 males and 850 females (16 to 64 years of age) from Wechsler's standardization population of the WAIS, and 1100 males and 1100 females (5 to 15 years of age) from Wechsler's standardization population of the WISC. Treating the data with the three factor analysis of variance technique, Miele found that: 1) there were no differences on total score on either test; 2) females were superior on the WAIS Vocabulary and Similarities subtests and superior

¹

The following standard abbreviations will be used for the Wechsler subtests throughout this paper: I - Information, A - Arithmetic, PC - Picture Completion, V - Vocabulary, S - Similarities, and DS - Digit Symbol.

at all ages in Digit Symbol; and, 3) males were superior at all ages, except 5-7 and 55-64 on Block Design; on Picture Completion after age 7 and on the WAIS Information and Arithmetic, at all ages. On the WISC, boys were superior on Comprehension and Mazes.

Coslett (1965), using the WAIS M-F score, hypothesized that paranoid schizophrenics would deviate toward the norm of the opposite sex. Each patient (total: 50 male and 50 female paranoid schizophrenics) was given the six subtests involved. Contrary to the hypothesis, very significant sex differences ($p < .001$) and comparable in magnitude to that of a normal population, were obtained.

Other studies, on the other hand, do not support the above findings. Gainer (1962) reported feminine superiority on the WISC - DS, using 100 boys and 100 girls of average intelligence, but no significant sex differences on the other subtests were found. Shaw (1965) gave the WAIS to 50 male and female college students. No significant differences were found, although he did conclude that the Wechsler M-F score differentiated between the sexes more efficiently than any subtest ($p < .001$). Levinson (1963) studied the WAIS protocols of 30 male and 30 female ss who had at least a high school education and who were of at least average intelligence;

he found no statistically significant difference between the two groups. He stated that it was not possible to detect, by glancing at a WAIS pattern, whether the S was a male or a female.

Wechsler also concluded that the WAIS M-F scores might be comparable "to M-F scores on standard masculinity-femininity tests like the Miles-Terman or the MMPI with possible comparable interpretation."

Anastasi (1958) noted that masculinity-femininity tests have been used increasingly in recent years as an approach to sex differences by the comparison of men and women in "those responses which have proved to be most characteristic of each sex in our contemporary culture." Some of these tests are the Attitude-Interest Analysis developed by Terman and Miles (1936), as well as the masculinity-femininity scores on tests as the Strong Vocational Interest Blank (SVIB) (1943), the Guilford-Zimmerman Temperament Survey (1949), the Gough Femininity Scale (1952), and the Minnesota Multiphasic Personality Inventory (MMPI) (1943). It was also noted that attempts have been made to develop projective tests of masculinity-femininity for use with children (Brown, 1957; Erikson, 1951; and Honzik, 1951) and with adults (Franck & Rosen, 1949).

As another measure used in this present study is

the MMPI Masculinity-Femininity Scale (M-F), a brief review of the literature will be attempted at this point.

The MMPI M-F scale is composed of 60 items from the total group of 550 questions. The authors (Hathaway & McKinley, 1943) state that some of the items were inspired by Terman & Miles and that others are original, and that the items were originally selected by comparison of the two sexes. As the test is usually scored, a high standard score on the scale indicates deviation of the basic interest pattern in the direction of the opposite sex.

Heston (1948) made an analysis of the MMPI M-F items and found that 27 of the 60 items concern themselves with likes of an occupational or hobby nature. "Thus, men like science, hunting, forest ranger, soldier, contractor and dislike librarian, florist, nurse, 'drop the handkerchief,' love stories, poetry, dramatics, etc. The other 33 items comprise the 'personality reaction' portion of the scale and can be grouped somewhat as follows: (a) 12 items expressive of emotional feelings (where the masculine answers denote less emotional feeling); thus the male indicates his feelings are not easily hurt, he doesn't fear snakes, he daydreams very little, family habits do not annoy him, and he feels he does not act more intensely than most people; (b) another category of items concern reactions to people. This set includes 7

questions which indicate that the male in general has less trust in people. A male is characterized by feeling that he should if possible pay back wrongs, that he must stand up for his rights, that most people are honest only because they fear to be dishonest, most people like friends because friends are useful, that it pays to know who to get next to, etc.; (c) another category of 5 items is composed basically of those indicative of sexual inversion, such as too much interest in own sex and too much preoccupation with sexual problems in general; and (d) the 9 remaining items are of a miscellaneous nature, difficult to group under any significant heading."

This analysis brings to mind the previously mentioned Gough (1952) and Strong (1943) findings. In fact, some correlational studies have been done to determine the degree to which M-F tests agree and their respective capacities to distinguish between men and women.

Heston (1948) administered 4 masculinity-femininity (M-F) tests derived from the SVIB-Form M, the Kuder Preference Record, Form BM, the De Pauw Adjustment Inventory, and the MMPI. Subjects were comprised of 34 men and 45 women. He concluded that the 4 M-F scales were about 80% satisfactory in their capacity to place men above the mean score and women below the mean score, and that "the MMPI was more effective than the other three in this respect."

Using 57 male and 67 female college students, Shepler (1951) administered the M-F scales from the MMPI, the Terman-Miles, the SVIB, and the Franck test. Results showed that all 4 scales showed sex differences at the .01 level. The 4 tests were intercorrelated and the Strong, the MMPI, and the Terman-Miles scales all correlated with one another between .50 and .70 for both men and women. The Franck test did not correlate significantly with any of the other tests for either sex.

Klopfert (1966) correlated the M-F scores from the MMPI and the SVIB of two groups of 98 and 41 women from two college counseling centers. Pearson correlations of .48 and .41 for the two groups supported the assumption that higher MMPI M-F raw scores and higher SVIB standard scores indicate greater femininity of interests.

Granick & Smith (1953) compared MMPI M-F scores of 185 male and 386 female college students with the same Ss' first response to the examiner's direction to "draw a person," based on Machover's (1949) findings that there was some degree of sexual inversion in records of individuals who drew the opposite sex first. Although no relationship was found between the sex sequence of human figures drawn and scores on the M-F measure, the MMPI M-F scale

significantly differentiated between the male and female ss.

Barrows & Zuckerman (1960) administered the Guilford-Zimmerman Temperament Survey M-F scale, the MMPI M-F scale, and the SVIB M-F scale, along with tests of mental abilities and vocational interests, to 2,296 male employees of a large Canadian firm. Correlations among the three M-F scales were all in the .30's. Mechanical, scientific and computational interests correlated positively with masculinity, while artistic, clerical, musical and literary interests tended to correlate negatively with masculinity. The Guilford-Zimmerman and the Strong masculinity scores correlated positively with quantitative ability, while the MMPI correlated negatively with all intellectual measures.

Stenck (1959), citing studies (Ellis, 1950; Heston, 1948; and Nance, 1949), is of the contention that various measures of masculinity-femininity, though purporting to measure the same trait, nevertheless fail to do so consistently. Comparing the MMPI and the Terman-Miles M-F scores of 132 undergraduate women students, he obtained correlation of 0.17 was not significant at either the .01 or .05 level of confidence. He underscored the fact that 31 of the 60 items comprising the MMPI M-F were derived from the Terman-Miles;

Little research comparing the WAIS M-F score with standard masculinity-femininity measures is available. Krippner (1964) administered the WAIS and the MMPI to 50 college males and computed M-F scores on each instrument. Low, but significant, positive correlations ($p < .05$) were found. McCarthy, Schiro, & Sudimack, (1967) administered the WAIS, the Terman-Miles, and the Guilford-Martin Inventories to 40 male and 40 female college students. Negligible correlations between each of the M-F personality measures and the WAIS M-F, however, were obtained for both sexes.

The present study seeks to investigate the relationship between the MMPI and the WAIS M-F scores. It was hypothesized that a significant relationship would emerge from the data. In addition, the present author has decided to make a comparison between the performance of §s of two racial groups, an American sample and a Philippine sample, for two reasons.

First and foremost, the purpose was to conduct an empirical investigation of the differences, if any, between two racially and culturally different groups of people. Several authors (Brown, 1958; Bieliauskas, 1965; Levinson, 1963; Mead, 1949; Seward, 1956; and Webster, 1953) have stated that, in the Western culture, greater flexibility in sex-role learning and the trend toward increasing similarity

of sex roles, make it difficult for the American culture to speak of the masculine role or the feminine role. Indications for this contention cited were: a) similarity of educational experience of girls and boys from kindergarten through the secondary school system; b) men (husbands) doing domestic tasks historically considered exclusively "feminine,"; c) certain occupations and certain activities that could not be chosen by women earlier can be chosen now; d) the apparel of boys and men that emphasize color, softness, and more delicate features along with the adoption by girls and women of all kinds of "masculine" clothing, hair styles, etc.; and, e) the fact that more women than ever before now occupy professional and semi-professional positions cannot be overlooked as an important factor that eventually will produce changes in cultural stereotypes of sexual differences (Bieliauskas, 1965; Brown, 1958).

The present author thus seeks to explore the presence and the degree of sex differences between ss belonging to a Western culture as compared to the predicted presence and high degree of sex differences present in a non-Western culture, i.e. the Philippines.

The second reason was brought about by the discovery of the paucity in the available psychological literature of

research involving foreign students in general. As noted by Domino (1968), foreign students, although they have become an increasingly common and important part of American collegiate life, have been the focus of little psychological research.

CHAPTER II

Method

Subjects:

The 30 Ss in both samples were either college graduates or graduate students. Each sample consisted of 15 males and 15 females engaged in various fields of endeavor such as Business, Engineering, Social Work, Psychology, Education, and Law. All Ss participated in the study voluntarily. Eleven males and 10 females in the American sample, 14 males and 11 females in the Philippine sample were either in graduate programs or had graduate degrees at time of testing.

The majority of the American graduate students were currently enrolled at Loyola University or universities in the Chicago-Evanston areas. Due to the difficulty in securing an adequate number of willing Philippine Ss, the author had to use Ss enrolled at the University of Illinois in Champaign, Ill. and at the University of Wisconsin at Madison, in addition to those in the Chicago-Evanston schools.

Ss not in any graduate programs at time of testing obtained their college degrees from various universities in their respective countries.

In an attempt to hold the cultural variable constant, the American ss were required to be at least third generation Americans on either or both sides of the family. The Philippine ss, on the other hand, were at least third generation nationals and have had at least 20 years of Philippine residency.

The ages of the ss ranged from 21 to 39 years. The mean age for the American sample was 25 years 3 months for males and 25 years 4 months for females. The mean age for the Philippine sample was 26 years 9 months for males and 26 years 5 months for females. .

The period of residency in the United States for the Philippine males ranged from 6 months to 3 years 10 months, with a mean residency period of 1 year 6 months. The Philippine females' range of period of residency in the United States was from 6 months to 9 years, or a mean residency period of 2 years 9 months. The examiner was unable to obtain enough Philippine ss to warrant matching the sexes on this time variable.

Each sample was composed of married and non-married ss.

Instruments:

The test measures used were the WAIS and the M-F scale from the MMPI.

Procedure:

All Ss were tested individually by the author. Standard WAIS (1955) instructions were given. After all 11 subtests were accomplished, a self-administering form of the MMPI M-F scale was provided, with the following modified MMPI (1951) instructions: "Read each statement and decide whether it is true as applied to you or false as applied to you. Mark your answers on the space provided after each statement. Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces if you can avoid it. Ready? Go ahead." Each S recorded his responses by either a check or a cross mark.

At the end of each testing, the Ss were informed of the general purpose of the study.

CHAPTER III

Results

The raw scores of each S were transformed into their respective scale or T scores. The means and standard deviations on the MMPI and WAIS M-F scores were obtained and are presented in Tables 1 and 2.

Table 3 contains data concerning the first hypothesis. As a means of detecting any existing associations between the two M-F tests, linear relationships were explored. As a high MMPI M-F T score denoted femininity for males and masculinity for females, whereas a minus score in the WAIS M-F indicates femininity and a plus score, masculinity, an inverse correlation should be expected between the males' M-F scores, and a positive linear correlation should be expected from the females' M-F scores.

Analysis of the correlation coefficients (r) obtained revealed no significant correlations between the MMPI and the WAIS M-F scores of both the American and Philippine males and females. Therefore, the hypothesis that there is a relationship between the two M-F scores was not confirmed.

Table 4 presents data regarding the second hypothesis. Using Fisher's t formula to test the difference

between uncorrelated means, for two samples of equal size (Guilford, 1956, p.220), the obtained t score of -3.08 indicates a difference, significant at the $.01$ level, between the WAIS M-F scores for American males and females. There was no significant difference on the WAIS M-F scores between Philippine males and females. Therefore, the hypothesis that there would be greater sex differences in the Philippine sample than in the American sample was rejected.

The data was also analyzed to determine the presence of any significant differences in Verbal, Performance, and Full Scale IQ scores between the two samples. Table 5 shows the means, standard deviations, and the t ratios of the differences obtained.

The following results were found: 1) the means obtained by American males on the Verbal subtests were significantly higher ($p < .01$) than the means obtained by Philippine males; 2) the means obtained by the American females on the Verbal subtests were significantly higher ($p < .01$) than the means obtained by the Philippine females; 3) there were no significant differences between the two samples, matched for sex, on their Performance IQ scores; and, 4) a comparison of the differences between the two samples, matched for sex, on their Full Scale IQ scores, yielded a significant difference ($p < .01$) between the males,

TABLE I

RANGE, MEANS, AND STANDARD DEVIATIONS
OF MMPI M-F T SCORES

	N	Range	Means	Standard Deviations
AMERICAN				
MALES	15	43-74	62.40	8.36
FEMALES	15	30-61	40.13	8.60
PHILIPPINE				
MALES	15	41-78	63.53	9.80
FEMALES	15	22-63	46.00	9.74

TABLE 2

RANGE, MEANS, AND STANDARD DEVIATIONS
OF WAIS M-F SCORES

	N	Range	Means	Standard Deviations
AMERICAN				
MALES	15	- 5 to +4	-0.87	2.00
FEMALES	15	-14 to +7	-5.73	5.57
PHILIPPINE				
MALES	15	-14 to +5	-5.73	5.96
FEMALES	15	-14 to +3	-8.40	4.21

TABLE 3

RELATIONSHIP
BETWEEN
MMPI AND WAIS M-F SCORES

	N	<u>r</u>
AMERICAN		
MALES	15	.02
FEMALES	15	.46
PHILIPPINE		
MALES	15	-0.13
FEMALES	15	.04

TABLE 4

COMPARISON OF WAIS M-F SCORES BETWEEN AMERICAN
MALES AND FEMALES AND BETWEEN PHILIPPINE MALES
AND FEMALES

	N	Means	Standard Deviations	<u>t</u>
AMERICAN				
MALES	15	- .87	2.00	3.08**
FEMALES	15	-5.73	5.57	
PHILIPPINE				
MALES	15	-5.73	5.96	1.37
FEMALES	15	-8.40	4.21	

df = 28

two-tailed test

** significant at .01 level

TABLE 5

COMPARISON OF WAIS VERBAL, PERFORMANCE, AND FULL
SCALE IQ SCORES BETWEEN AMERICAN AND PHILIPPINE
MALES AND FEMALES

	AMERICAN <u>Ss</u>			PHILIPPINE <u>Ss</u>		
	<u>WAIS SCALES</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>t</u>
MALE						
	Verbal	130.20	8.67	115.93	9.85	4.07**
	Performance	116.40	10.61	109.33	10.81	1.72
	Full Scale	125.67	7.27	114.00	9.63	3.61**
FEMALE						
	Verbal	124.86	7.18	115.46	8.12	3.25**
	Performance	113.73	4.96	110.40	12.28	.94
	Full Scale	121.13	5.07	114.13	9.31	2.47*

df = 28

two tailed test

* significant at .02 level

** significant at .01 level

and between the females ($p < .02$).

A further analysis was made of the six subtests (I, A, V, S, PC, and DS) used to obtain the M-F scores. The means, standard deviations, and t ratios between the two samples are presented in Tables 6 and 7.

Differences obtained, when comparing the males of the two samples, were in the following subtests: 1) Information ($p < .001$), 2) Vocabulary ($p < .02$), 3) Similarities ($p < .05$), and 4) Picture Completion ($p < .01$).

A significant difference ($p < .02$) in the Arithmetic subtest was found when the American and Philippine females were compared. No other differences between the means of the two samples were obtained.

A comparison was made on the difference between the Verbal IQ score means of American males and females (Table 8). The obtained t value indicated no significant difference.

However, further intra-group comparison made on the six M-F subtests (Tables 9 and 10) revealed the following: 1) American males were significantly higher than American females on Information ($p < .01$) and Picture Completion ($p < .01$), and 2) no difference was found between the Philippine males and females.

TABLE 6

COMPARISON OF AMERICAN AND PHILIPPINE
MALES ON THE WAIS M-F SUBTESTS

AMERICAN Ss			PHILIPPINE Ss		
<u>WAIS Subtests</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>t</u>
I	16.13	1.50	11.73	1.77	6.52****
A	13.33	2.68	11.93	3.32	1.23
V	16.07	2.02	14.20	1.97	2.48**
S	14.47	1.96	12.87	2.13	2.07*
PC	12.40	1.08	10.27	2.44	2.99***
DS	12.20	2.20	12.60	2.55	-0.45

df - 28

two tailed test

significance: .05*
 .02**
 .01***
 .001****

TABLE 7

COMPARISON OF AMERICAN AND PHILIPPINE
FEMALES ON THE WAIS M-F SUBTESTS

AMERICAN <u>Ss</u>			PHILIPPINE <u>Ss</u>		
<u>WAIS</u> <u>Subtests</u>	<u>Mean</u>	<u>Standard</u> <u>Deviation</u>	<u>Mean</u>	<u>Standard</u> <u>Deviation</u>	<u>t</u>
I	14.13	1.67	12.87	5.74	.79
A	12.67	2.55	10.33	2.12	2.63*
V	15.53	2.39	14.00	2.03	1.83
S	14.20	1.87	13.07	2.18	1.48
PC	10.93	1.06	10.33	2.44	.84
DS	13.73	2.59	13.53	2.87	.19

df = 28

two tailed test

* significant at .05 level

TABLE 8

COMPARISON OF WAIS VERBAL IQ SCORES
BETWEEN AMERICAN MALES AND FEMALES

	Mean	Standard Deviation	t
Males	130.20	8.67	.82
Females	124.86	7.18	

TABLE 9

COMPARISON OF AMERICAN MALES AND FEMALES
ON THE WAIS M-F SUBTESTS

MALES			FEMALES		
<u>WAIS Subtests</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>t</u>
I	16.13	1.50	14.13	1.67	3.33**
A	13.33	2.68	12.67	2.55	.67
V	16.07	2.02	15.53	2.39	.65
S	14.47	1.96	14.20	1.87	.37
PC	12.40	1.08	10.93	1.06	3.62**
DS	12.20	2.20	13.73	2.59	1.69

df = 28

two tailed test

** significant at .01 level

TABLE 10

COMPARISON OF PHILIPPINE MALES AND FEMALES
ON THE WAIS M-F SUBTESTS

MALES			FEMALES		
<u>WAIS Subtests</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>t</u>
I	11.73	1.77	12.87	5.74	.71
A	11.93	3.32	10.33	2.12	1.52
V	14.20	1.97	14.00	2.03	.27
S	12.87	2.13	13.07	2.18	.25
PC	10.27	2.44	10.33	2.44	.07
DS	12.60	2.55	13.53	2.87	.69

CHAPTER IV

Discussion

The predicted relationship between the MMPI and the WAIS M-F scores of males and females from two cultural groups was not found. It was noted, however, that the trend was present in the M-F scores of American females ($r = .46$). Perhaps, with a larger sample, significance would have been obtained.

In addition, a very slight inverse correlation was found between the M-F scores of Philippine males. It would seem that there is a tendency for an increase in "interest femininity," to be accompanied by a decrease in "intellectual masculinity," (Krippner, 1964) or vice versa for the Philippine males. As indicated in Table 4, American females and Philippine males obtained identical means on the WAIS M-F index. However, limitations caused by the small sample do not warrant any elaborate interpretation of the data.

The present study also failed to support the predicted presence and high degree of sex differences in the Philippine sample on the WAIS M-F scores. Contrary to the hypothesis, an analysis of the data revealed no significant differences between the Philippine males and females, but did yield a difference, significant at the .01 level,

between the American males and females.

A qualified conclusion from this study is that the validity of the WAIS M-F score as a means of identifying "intellectual" masculinity or femininity has been supported. However, further investigation is needed regarding its applicability for non-American subjects.

A further analysis of the data revealed a significant difference ($p < .01$) in the mean Verbal IQ scores between American and Philippine ss, matched for sex. The data disclosed that American males did significantly better in the I, V, S, and PC subtests, than the Philippine males.

It is suggested that the striking difference ($t = 6.519$) between the means in the I subtest was due to the cultural variable. An inspection of some specific items disclosed questions (i.e. Name four men who have been presidents of the United States since 1900; When is Washington's birthday?; What is the population of the United States?; How many senators are there in the United States Senate?; etc.) which are heavily loaded in this factor. In addition, the I subtest is one of the subtests in which American males have been found to do better (Miele, 1958; Wechsler, 1958).

With regards to the differences yielded in the V and S mean scores, one factor to be considered is that these subtests deal with word meaning, which, of course,

favours the American Ss.

An inspection of the PC subtest cards revealed pictures which can be considered culturally influenced (e.g. card 11 in which S is expected to detect the insufficient number of stars in the American flag; card 13 which shows the United States map missing Florida; card 20 which depicts a snow-covered Western barn structure; etc.). Miele (1958) and Wechsler (1958) have also found American males to be superior on this subtest.

No difference was found between the means for the Performance IQ scores.

On the other hand, it was also found that the means of the Verbal IQ scores of American females were significantly higher ($p < .01$) than the means obtained by the Philippine females. Analysis of the M-F subtests revealed a difference, significant at the .05 level, only for the A subtest, although there was a slight tendency for the American females to do better on the V and S subtests.

No difference between the means for the Performance IQ scores was found.

When American males and females were compared on their M-F subtests scores, it was found that the males did significantly better in the I and PC subtests ($p < .01$).

This study, thus, is in agreement with some of the findings obtained by Miele (1958) and Wechsler (1958). No differences, however, were found between the Philippine males and females.

CHAPTER V

Summary

The WAIS and the MMPI M-F scale were administered to 30 American and 30 Philippine male and female Ss. Using Wechsler's (1958) formula to obtain an M-F score from the WAIS, E hypothesized that there would be a significant relationship between the M-F scores from the two measures. It was also hypothesized that there would be greater sex differences in the Philippine sample compared to the American sample.

No relationship between the WAIS and the MMPI M-F scores was found in both samples. In addition, there was no significant difference between Philippine male and female Ss on the WAIS M-F scores. On the contrary, a significant difference at the .01 level was found between the WAIS M-F scores of American male and female Ss.

Further analysis of the data revealed significant differences, in favor of the American Ss, on some of the verbal subtests. The question regarding the applicability of the WAIS for the Philippine population was raised.

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APPROVAL SHEET

The thesis submitted by Ellinor A. San Diego has been read and approved by the director of the thesis. Furthermore, the final copies have been examined by the director and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

July 26, 1968
Date

Ronald E Walker
Signature of Adviser