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THE RELATIONSHIP OF THE DRAW-A-PERSON  
TEST TO MEASURES OF MASCULINITY  
AND FEMININITY

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THE RELATIONSHIP OF THE DRAW-A-PERSON TEST  
TO MEASURES OF MASCULINITY AND FEMININITY

By

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ABSTRACT

This investigation was designed to test the hypotheses that the Draw-A-Person test is an adequate tool for reflecting sexual identification and for measuring sexual differentiation. It was further hypothesized that those subjects who draw the self-sex figure first identify more adequately with their self-sex than do subjects who draw the opposite sex figure first.

One hundred undergraduate students at Michigan State University were administered the Draw-A-Person test, the Interest Scale (Mf) of the Minnesota Multiphasic Personality Inventory and the 7th and 8th sections of the Personal Preference Scale. Statistical analyses were made to determine if there were significant relationships between the Draw-A-Person test and these measures of masculinity and femininity. No relationship was found between the measure of sexual identification based on the Draw-A-Person test and the measure of masculinity and femininity used as a criterion, the 7th and 8th sections of the Personal Preference Scale. A low positive, but not statistically significant relationship was found between sexual differentiation and the measure of masculinity and femininity used as a criterion, the Interest Scale (Mf) of the Minnesota Multiphasic Personality Inventory. It was found that the males who drew their self-sex figure first identified with their self-sex more adequately than

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' did those males who drew the opposite sex figure first.

However, the interest pattern of those males who drew the self-sex figure first was significantly less masculine than was that of those males who drew the opposite sex figure first. The female subjects did not show similar tendencies.

### **ACKNOWLEDGMENT**

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Sandra Joy Sherwood

DEDICATION

To my husband,

Bud

whose inspirations never ebbed

and

whose understanding and faith never failed.

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## INTRODUCTION

That individuals reveal important aspects of their personality in drawings has long been recognized. Goodenough (3) introduced a test utilizing the graphic features of the figure drawn to measure intelligence; Buck (1) devised the House - Tree - Person Test; Machover (9) outlined a method of personality analysis based on the interpretation of drawings of the human figure. Furthermore, the use of drawings in the analysis of personality traits is widespread and growing in popularity. However, there is a deficiency in the communicability of interpreting drawings, in the experimentation concerning human figure drawings, in the reliability and validity of the drawings and in determining if a test utilizing human figure drawings is an adequate clinical tool in evaluating personality traits.

The present study was designed to investigate the relationship of the DAP (Draw-A-Person Test) (9) to measures of masculinity and femininity. In particular, this study was concerned with the question of whether the DAP, scored on sexual identification and sexual differentiation by means of a modified Swensen Scale (13), is related to the Interest or Masculinity-femininity Scale of the Minnesota Multiphasic Personality Inventory (hereafter referred to as the Mf Scale)

(5) and the 7th and 8th sections of the Personal Preference Scale (6). It is further concerned with the relationship between the sex sequence of drawing the human figure and the adequacy of subjects' self-sex identification and sexual differentiation.

A subject does not consciously identify with his self-sex or discriminate between the sexes on human figure drawings; it is an unconscious process (2, 9). The terms "sexual identification" and "differentiation" as used in this study should thus be understood to refer to those characteristics which are indirectly manifested in the DAP test rather than to the subject's conscious self-evaluation. However, there were many instances in this thesis where this clear-cut separation could not be made. In such cases, sexual identification referred to the adequacy with which a subject portrayed his self-sex. Sexual differentiation referred to the degree to which a subject discriminated or made a difference between the male and female figure drawings.

## THE DRAW-A-PERSON TEST (DAP)

The DAP was developed by Karen Machover. It is a projective test which requires the drawing of the human figure. Subjects are given a piece of blank white paper, 8½" x 11" and a No. 2 lead pencil with an eraser. They are then asked to draw a person. When they have finished, they are asked to draw, on another sheet, a person of the opposite sex. The graphic properties of the figures drawn are then scored according to certain criteria (9).

According to the assumptions underlying the DAP, "projection of traits from a graphic standpoint to the drawings are found in and may be detected from the drawings of the human figure." The self-traits of the person and his problems may be directed toward one figure or toward both. The graphic treatment accorded the pair of figures drawn by a subject may be associated with the degree of identification with the male or female that is characteristic of the subject. The difference, or lack of it, between the male and female figures drawn by subjects in performing the DAP is said to be indicative of the degree to which the subject has adequately identified himself sexually. Furthermore, it is asserted that "the particular type of treatment, both graphic and verbal, accorded the pair of figures drawn

by a subject may be associated with the sex sequence of the drawings." Presumably, it is most normal to draw the self-sex figure first. According to Machover, evidence of some degree of sexual inversion and confusion of sexual identification has been found in records of individuals who draw the opposite sex figure first in response to the instruction, "draw a person".

Results of studies, (2, 4, 10) pertinent to this investigation revealed that there is a need for clarifying the psychological implications of the DAP. A study by Murphy (10) compared the sexual differentiation in human figure drawings of male and female adults. Each pair of drawings was rated according to the Swensen Scale. Graphic maturity was determined by the Goodenough Scale. The results showed that female adults differentiated between the sexes to a more adequate degree than did the males although there was little difference in graphic maturity between the two groups. This was interpreted as suggesting that same sex human figure drawings of adults tend to be self portraits rather than an index of degree of identification with the appropriate sex role.

Caligor (2) conducted a study concerning the determination of subjects' unconscious conception of their own "masculinity-femininity" identification. The Mf scale was used to compare the subjects' conscious conception of their own "masculinity-femininity" identification. A drawing method

called the "Eight Card Redrawing Technique" was used to measure the subjects' unconscious conception of their own "masculinity-femininity". It was found that the Eight Card Redrawing Technique agreed with the Mf scale; that retest reliability was high; and that females demonstrated consistently less stable "masculinity-femininity" identification than did males.

A study conducted by Granick and Smith (4) dealt with sex sequence and its relation to the Mf scale. It was found that: 1. the self-sex figure was drawn first by 88.1% of the males; 2. the self-sex figure was drawn first by 65.3% of the females. This was interpreted as a tendency for males to draw their self-sex figure first. No relationship was found between the sex sequence of human figures drawn and scores on the Mf scale. This study tended to refute Machover's hypothesis of sexual inversion which may be involved in choosing the opposite sex as the first response to "draw a person".

Due to the sparsity of information noted above, it is seen that not much in the way of experimentation has been done to justify the use of the DAP in detecting sexual identification and/or differentiation.

#### a. The Swensen Scale

Swensen (13) devised a 9-point scale for the purpose of rating the degree of sexual differentiation between the two DAP drawings. By means of sample drawings supplied by

Swensen the rater determines whether the difference between the sex characteristics of the two drawings are high or low: whether it should be scored 2 (high), or 1 (low) or at some stage in between.

b. A Modification of the Swensen Scale

In the present study, a modification of this rating method was introduced. Each drawing of a pair was rated and given a point score. This gave each subject three scores on the DAP test: 1. an "identification" score for the self-sex figure drawing; 2. an "identification" score for the opposite sex figure drawing; and 3. a "differentiation" score which was obtained by adding the two identification scores. Since there were two independent scores (one from each judge) for each dimension, the score used for statistical purposes was the one on which complete agreement was reached.

The Swensen scale was modified in order to obtain sexual identification scores for each subject. In many cases a male's self-sex figure drawing was more sophisticated than was his opposite sex figure drawing and a female's self-sex figure drawing was more sophisticated than was her opposite sex figure drawing. However, the opposite was also true in a number of cases. It thus did not seem appropriate to give a unitary score. An example of this is the following: subject A drew a male figure which had an angular body contour, whose apparel was adequate, had eyelashes, thin lips and short hair, this would be rated point 7. The female

figure of the same subject had long hair, a partial representation of female apparel, and little roundness of body contour; this would be rated point 3.



## THE PERSONAL PREFERENCE SCALE

One of the criteria employed in the present study as a measure of masculinity and femininity were the 7th and 8th sections of the PPS (Personal Preference Scale).

The PPS is a projective, paper-pencil type of personality inventory developed by Krout and Krout (6). The test is based on projective-symbolic data. It is divided into ten sections dealing with major areas of behavior arranged to have some semblance of developmental order. Two basic assumptions are involved: 1. "that certain biographical residues, distilled out of each individual's past, not only persist through life, but have a crucial effect on his adult adjustment"; 2. "that - in some respects - these 'residues' possess the quality of universality, and as universals they may be localized in certain 'developmental areas' found in every individual's life history".

Subjects are given booklets containing the test sections and told to read the instructions. There is no time limit. The subject is to mark each of the items in each of the ten sections as either "Like", "Dislike", or "Feel Indifferent". Each of the ten sections of the scale gets an independent score. Each "L" is scored 2; each "FI" is

scored 1; and each "D" is given a zero value. A score is considered high or low when it is one sigma from the mean.

The present thesis is concerned with the 7th and 8th sections of the inventory. The 7th section deals with traits typically regarded as feminine. A high score on this section should point to a submissive cooperative attitude (in a male or female), because the traits are all of a passive-receptive nature. A low score - in a male - points to an individual who is perhaps manifesting a feminine protest, but behaviorally shows masculine preference. A low score - in a woman - suggests presence of a masculine protest, or antagonism toward typical behavior associated with her sex, and a tendency toward self-assertiveness.

The 8th section deals with typically masculinoid attitudes. Here a low score should indicate a generally unaggressive, apprehensive type of personality, in a male, and perhaps a normal attitude in a female; whereas a high score should point to a masculinoid-aggressive make-up, in a male, and perhaps an overcompensated masculinity in a female.

There are relatively few studies pertinent to this inventory. Results from a study conducted by Stagner, Lawson, and Moffitt (11) of the factor analysis of the PPS favored the view that there were ten factors necessary to account for most of the variance. It appeared that the inventory

did reflect the various stages or ten patterns of psychosexual development described in Freudian literature. An extensive study concerning the measures of personality in developmental terms was conducted by Krout and Tabin (7). This study was involved with the origin of the PPS Inventory. The results pertinent to the present study are that male-female differences appear on the test. Sections 7 and 8 show significant differences between the sexes.

THE INTEREST SCALE (Mf) OF THE MINNESOTA MULTIPHASIC  
PERSONALITY INVENTORY

The present study further employed as a criterion for masculinity and femininity the Masculinity-femininity (Mf) scale of the MMPI (Minnesota Multiphasic Personality Inventory) (5). The MMPI sets out to assay those traits that are commonly characteristic of disabling psychological abnormality. The inventory consists of 550 affirmative statements which the subject is asked to classify into three categories: "True", "False" and "Cannot Say". In the group form of the test, the statements are printed in a test booklet. The MMPI provides scores on nine clinical scales. This study was concerned with the Mf scale (masculinity and femininity interest pattern). This scale measures the tendency toward masculinity and femininity of the interest pattern. Separate T tables are provided for each sex. For either sex, a score two standard deviations away from the mean indicates a deviation of the basic interest pattern in the direction of the opposite sex. A separate scoring key is used for each sex.

Every item chosen for this scale indicates a trend in the direction of femininity on the part of male sexual inverts. Elevated scores may indicate effeminate interests, submissive or docile characteristics, passive personality

structures or anxieties related to sexual adjustment, but not necessarily homosexuality. In either the male or female case, a high score indicates a deviation of the basic interest pattern in the direction of the opposite sex.

Extensive studies have been conducted with this inventory. The ones pertinent to this study have been previously cited (2, 4).

## HYPOTHESES

The present study was concerned with the testing of the following hypotheses:

- I. The DAP reflects the subject's sexual identification as measured by its relationship to the 7th and 8th sections of the PPS.
- II. The DAP measures the degree of a subject's sexual differentiation as tested by its relationship to the *Mf* scale of the MMPI.
- III. Those subjects who draw the self-sex figure first in response to "draw a person" identify more adequately with their self-sex than do the subjects who draw the opposite sex figure first. The differences are expressed in the variances in identification scores and differentiation scores of the DAP, *Mf* scale scores, and 7th and 8th sections scores of the PPS.

## PROCEDURE

### a. Subjects

One hundred men and women comprised the subject population. The sample consisted of 64 males and 36 females. The subjects were all enrolled in General Psychology classes (Psychology 201) at Michigan State University, East Lansing, Michigan. The subjects used had not seen or taken any of the tests prior to the present testing. Data concerning the sample used are found in Table 1.

TABLE 1

#### SOME CHARACTERISTICS OF THE SUBJECT SAMPLE

	N	Age Range	Age Mean	Educational Mean (years)
Males	64	19-33	21.73	13-4
Females	36	18-22	19.75	13-3
Total	100	18-33	20.99	13-4

### b. Test Administration

The subjects were tested, by the author of the present thesis, in five group sessions taking approximately thirty

minutes each. The subjects were handed a six page booklet and a two page booklet and told not to open these until directed to do so. The six page booklet consisted of two blank sheets of 8½" x 11" white paper, one sheet containing instructions for the Mf scale of the MMPI, and three pages of statements consisting of the Mf scale from the MMPI. The two page booklet consisted of the ten sections of the PPS.

The following instructions were given in the administration of the test:

Two booklets will be given to each person. Place the smaller two page booklet beneath the larger six page booklet. Do not turn to this smaller booklet until told to do so. Use a pencil for the tests.

If there is any question as to the procedure in taking these tests, please raise your hand.

1. On the front of the first page, draw a person. Make a complete person. Please do not turn the page until I tell you to do so. Go ahead.
2. (5 minutes later) Turn to the next page and draw a person of the opposite sex from that which you have just drawn. If you drew a male, draw a female now. If you drew a female, draw a male now. Do not turn the page until I tell you to do so. Go ahead.
3. (5 minutes later) Turn to the next page. Fill in the information on the top of the page: age, sex and year in school.
4. This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to mark your answers on the spaces to the right of each statement.\* Look at the example of the

---

\*See Appendix.



correctly marked answers at the bottom of this page. If a statement is TRUE or MOSTLY TRUE, as applied to you, blacken between the lines in the column headed T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, blacken between the lines in the column headed F. If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces if you can avoid it.

In marking your answers, be sure that the number of the statement agrees with the numbered space to the right of the statement.

Make your marks heavy and black. Erase completely any answer you wish to change.

Remember, try to make some answer to every statement.

NOW TURN TO THE NEXT PAGE AND GO AHEAD.

5. (10 minutes later) When you have completed this booklet, turn to the two page booklet. On the back of the booklet,\* in the upper left hand corner, please put your name, sex, age and year in school. When you have done this, turn the booklet over to its right side.
6. On the pages that follow you will find a list of items which you may like, dislike, or feel indifferent about. There is no "correct" response for these items. Your preference is the correct response for you. If you have never experienced the item, or have not experienced it lately, imagine how you might feel if you did experience it. Encircle the letters which most nearly express what you feel, and be sure to check every item.

L means "I like it".

FI means "I feel indifferent about it".

D means "I dislike it".

7. Go ahead. Complete the entire test.

---

\*See Appendix.

8. (3 minutes later). When you have finished with both booklets, put the smaller one in the larger one and place them face down on this table. Thank you.

### c. Methodology

Each subject was administered the DAP, the Mf scale and the 7th and 8th sections of the PPS. Sex sequence of the drawings was noted for each individual. The DAP was then scored by two independent judges using a modification of the Swensen Scale. The product-moment correlation coefficient was used to determine the reliability between judges. The resulting coefficient for judge reliability for the male subjects was  $r = .93$  which was significant at the .01 level of confidence. The resulting coefficient for judge reliability for the female subjects was  $r = .86$  which was also significant at the .01 level of confidence. These correlations showed that there was considerable agreement between the two judges. The Mf scale and the 7th and 8th sections of the PPS were scored in accordance with the instructions in the manuals. Each subject received a self-sex identification score, a differentiation score, a Mf score and separate scores for each of the two PPS sections.

The subject's identification scores were related to the PPS sections using a product-moment correlation coefficient. The t-test was employed to determine the significance of the difference between the means of the subject's self-sex and opposite sex identification scores. The

differentiation scores were related to the Mf scores using a product-moment correlation coefficient. The t-test was further employed to determine the significance of the difference between the means of the subjects who drew the self-sex figure first and the opposite sex figure first on their identification scores, differentiation scores, Mf scores and PPS section scores. In this thesis, the values of  $r$  and  $t$  were considered significant at the .05 and .01 levels of significance only.

## RESULTS

The results of this study will be discussed in the order of the hypotheses stated.

Hypotheses I states that the DAP reflects the subject's sexual identification. The results concerning this hypothesis are set forth in Table 2. This table reveals that the male and female self-sex identification scores did not relate to the 7th and 8th sections of the PPS. The correlation coefficient for the male subjects was  $-.04$  on the 7th section and  $.05$  on the 8th section. The correlation coefficient for the female subjects was  $.22$  on the 7th section and  $.05$  on the 8th section. These were not statistically significant.

TABLE 2  
RELATIONSHIP BETWEEN SELF-SEX IDENTIFICATION SCORES AND THE  
PERSONAL PREFERENCE SCALE SCORES

	N	M	S.D.	r	P
<hr/>					
<u>Males</u>	64				
Identification Scores		6.91	2.33		
PPS 7 Scores		4.52	3.20	$-.04$	N.S.
PPS 8 Scores		14.00	2.75	$.05$	N.S.
<hr/>					
<u>Females</u>	36				
Identification Scores		6.42	2.22		
PPS 7 Scores		14.33	3.53	$.22$	N.S.
PPS 8 Scores		9.44	3.35	$.05$	N.S.

Hypothesis II states that the DAP measures the degree of a subject's sexual differentiation. Inspection of Table 3 shows that the males' and females' differentiation scores did not relate significantly to their respective Mf scores. Though the male correlation coefficient of .24 and the female correlation coefficient of .27 were significant at the .10 level of confidence, this level was not accepted as high enough for this study.

TABLE 3

## RELATIONSHIP BETWEEN DIFFERENTIATION SCORES AND Mf SCORES

	N	M	S.D.	r	P
<hr/>					
<u>Males</u>	64				
Differentiation Scores		13.80	4.01		
Mf Scores		24.36	4.36	.24	N.S.
<u>Females</u>	36				
Differentiation Scores		12.61	4.23		
Mf Scores		38.06	3.70	.27	N.S.

Hypothesis III states that those subjects who draw their self-sex figure first identify more with their self-sex than do those subjects who draw the opposite sex figure first. The results of this hypothesis are found in Tables 4 through 6. Examination of Table 4 reveals that for males there was a significant difference between the self-sex identification scores of the males who drew the self-sex

figure first and those who drew the opposite sex figure first. The mean of the identification scores of males who drew the self-sex figure first was 7.04 which was significantly higher than the mean of 6.29 which was obtained by the males who drew the opposite sex figure first. Further inspection of this table shows that for females there was no significant difference between the self-sex identification scores of the females who drew the self-sex figure first and those who drew the opposite sex figure first. The respective means of 6.76 and 5.93 did not differ significantly. This table also shows that for males and females there were no significant differences between the differentiation scores

TABLE 4

COMPARISON OF IDENTIFICATION AND DIFFERENTIATION SCORES OF SUBJECTS WHO DREW THE SELF-SEX FIGURE FIRST AND THOSE WHO DREW THE OPPOSITE SEX FIGURE FIRST

		Identification Scores			Differentiation Scores		
	N	M	t	P	M	t	P
<u>Males</u>							
Self-Sex Figure first	57	7.04			13.90		
Opposite Sex Figure first	7	6.29	2.68	.05-.01	12.70	.75	N.S.
<u>Females</u>							
Self-Sex Figure first	21	6.76			13.14		
Opposite Sex Figure first	15	5.93	1.11	N.S.	11.87	.89	N.S.

of those subjects who drew the self-sex figure first and those who drew the opposite sex figure first. The means of the males of 13.90 and 12.70 did not significantly differ from each other nor did the means of the females of 13.14 and 11.87.

Table 5 reveals that there was a significant difference between the Mf scores of male subjects who drew the self-sex figure first and those who drew the opposite sex figure first. The Mf mean of those males who drew the self-sex figure first was 24.78 which was significantly higher than the mean of 20.86 which was obtained by those males who drew the opposite sex figure first. The 7th and

TABLE 5

COMPARISON OF MALE SUBJECTS WHO DREW THE SELF-SEX FIGURE FIRST WITH THOSE WHO DREW THE OPPOSITE SEX FIGURE FIRST ON THE SEVERAL MEASURES OF MASCULINITY AND FEMININITY

	Self-Sex Figure First			Opposite Sex Figure First			t	P
	N	M	S.D.	N	M	S.D.		
Mf Scores	57	24.78	4.60	7	20.86	5.49	2.32	.05
PPS 7 Scores		4.42	3.25		5.29	2.81	.72	N.S.
PPS 8 Scores		14.02	2.81		13.86	2.22	.14	N.S.

8th sections of the PPS showed no significant difference between the scores of male subjects who drew the self-sex figure first and those who drew the opposite sex figure first. The 7th section means of 4.42 and 5.29, respectively, did not

differ significantly nor did the 8th section means of 14.02 and 13.86.

From a study of Table 6, it is seen that there was no significant difference between the several measures of masculinity and femininity of female subjects who drew the self-sex figure first and those who drew the opposite sex figure first. The Mf means of 38.14 and 37.93 did not differ significantly. The 7th section means of 14.90 and 13.53 did not differ significantly nor did the 8th section means of 9.67 and 9.13.

TABLE 6

COMPARISON OF FEMALE SUBJECTS WHO DREW THE SELF-SEX FIGURE FIRST WITH THOSE WHO DREW THE OPPOSITE SEX FIGURE FIRST ON THE SEVERAL MEASURES OF MASCULINITY AND FEMININITY

	Self-Sex Figure First			Opposite Sex Figure First			t	P
	N	M	S.D.	N	M	S.D.		
Mf Scores	21	38.14	4.03	15	37.93	3.33	.16	N.S.
PPS 7 Scores		14.90	3.12		13.53	3.99	1.12	N.S.
PPS 8 Scores		9.67	3.71		9.13	2.91	.47	N.S.



## DISCUSSION OF RESULTS

The results concerning Hypothesis I appear to be inconsistent with one of the basic theories of the DAP: that it reflects a subject's sexual identification. It was shown that the identification scores did not relate to the measure of masculinity and femininity used as a criterion, (the 7th and 8th sections of the PPS). This indicates that the drawings of a person, used as a vehicle for the expression of one's body needs and conflicts did not reflect the subject's projection of his self-sex image. The findings are that subjects did not identify more adequately with their self-sex but identified equally as well with both sexes. The results showed that the DAP did not reflect differences in male and female identification as measured by the PPS.

The results concerning Hypothesis II showed that the subject's differentiation scores did not relate to the measure of masculinity and femininity used as a criterion, (the Mf scale of the MMPI). It appeared that the DAP did not measure those sexual characteristics which discriminate between male and female interest patterns.

The results concerning Hypothesis III revealed that the sex sequence of drawings related to the adequacy with which males identified with their self-sex. However, the sex sequence of drawings did not relate to the adequacy with

which females identified with their self-sex. Males who drew the self-sex figure first identified more adequately with their self-sex than did males who drew the opposite sex figure first. It was further shown that the sex sequence of drawings did not relate to the adequacy with which subjects differentiated between the sexes.

Further results revealed that males who drew the self-sex figure first deviated in their basic interest pattern toward femininity as shown by the Mf scores. For females there was no significant difference. Considering the result that males who drew their self-sex figure first identified more adequately with their self-sex, this result seemed quite contradictory. It would be assumed that the more adequately one identified with his self-sex, the more he would be prone to possess the basic interest patterns of that sex. It thus appeared that the theory involved here is rather ambiguous and needs clarifying. There was no deviation found on the 7th and 8th sections of the PPS for either males or females.

It would seem from the results of this study that the DAP perhaps does not lend itself to quantification. The interpretation of its inherent properties would then seem to depend grossly upon the artistic skills of the individual using it and hence could not be interpreted by a technician versed in quantitative analysis. It was, of course, quite possible that the reason for this seeming lack of

quantification was due to the qualities of the scoring procedure and not due to the qualities of the DAP itself.

Generalizing from the results, the salient question seems to be that if the DAP was so weak in this one basic area, what might be concluded concerning the less obvious traits that the DAP is purported to show. This points up the definite need for further investigation of the DAP before it can be accepted as a standard projective personality technique.

Considering the reasons for the rapid popularity and extensive use of the DAP, a further speculative question is raised. Is the psychologist being deluded by the self-gratification that he receives from seeing traits in the test which confirm his own feelings. A test which gives such free rein to one's ingenuities, when interpreted, may very possibly be construed to parallel one's own intuitive feelings. The corroboration of one's own projection into the test may add considerable impetus to its use.

As for reasons why the DAP did not relate significantly to the criteria used, it is proposed that: 1. the population used for the present study was obtained from a college population which may deviate in the basic interest pattern from a non-college population; 2. the modification of the Swensen Scale may have resulted in voiding the scale as valid and/or reliable; 3. the Swensen Scale itself has been little used and may not be valid in its present form;

4. the Mf scale and the 7th and 8th sections of the PPS may be measuring different properties than sexual identification and differentiation, unrelated to the DAP. This may explain the lack of parallelism between the several measures of masculinity and femininity.

## SUMMARY AND CONCLUSIONS

The present study was undertaken to test the hypotheses that the DAP is an adequate tool for reflecting sexual identification and for measuring sexual differentiation. It was further hypothesized that those subjects who draw the self-sex figure first identify more adequately with their self-sex than do subjects who draw the opposite sex figure first.

One hundred undergraduate students at Michigan State University were administered the Draw-A-Person test, the Interest Scale (Mf) of the Minnesota Multiphasic Personality Inventory and the 7th and 8th sections of the Personal Preference Scale. Statistical analyses were made to determine if there were significant relationships between the DAP and these measures of masculinity and femininity. No relationship was found between the measure of sexual identification based on the DAP and the measure of masculinity and femininity used as a criterion, the 7th and 8th sections of the PPS. A low positive, but not statistically significant relationship was found between sexual differentiation and the measure of masculinity and femininity used as a criterion, the Mf scale of the MMPI. It was found that the males who drew their self-sex figure first identified with their self-sex more adequately than did those males who drew the opposite sex figure first. However, the interest pattern of those males who drew the self-sex figure first was significantly

less masculine than was that of those males who drew the opposite sex figure first. The female subjects did not show similar tendencies.

The major conclusions that were reached in this study were:

1. The DAP did not reflect a subject's sexual identification as measured by the 7th and 8th sections of the PPS.
2. The degree of a subject's sexual differentiation, as measured by the DAP, did not relate to his basic interest pattern.
3. Subjects did not identify more adequately with their self-sex.
4. Sex sequence of drawing was related to the adequacy with which males identified with their self-sex; however, this did not hold for the females.
5. Sex sequence of drawing was not related to sexual differentiation.
6. The interest pattern of males who drew the self-sex figure first was less masculine than that of the males who drew the opposite sex figure first.
7. Sex sequence of drawing was not related to the interest patterns of females.
8. Sex sequence of drawing was not related to the 7th and 8th sections of the PPS.

Further statistical analyses of relationships between tests but unrelated to the hypotheses are presented in additional sections.

## DISCUSSION OF ADDITIONAL RESULTS

### a. The Draw-A-Person Test

Further results procured in this study concerned the comparison of the several scores obtained on the DAP by the male and female subjects. The results of the comparison of the male and female identification scores are found in Table 7. Inspection of this table reveals that there was no significant difference found between the male and female identification scores. The mean of 6.91 for the male self-sex identification scores did not significantly differ from the female mean of 6.42. Nor did the mean of 6.80 for the male opposite sex identification scores differ from the female mean of 6.19. These results indicate that the males and females identified, via the drawings, with the sexes equally as well.

TABLE 7

COMPARISON OF MALE AND FEMALE IDENTIFICATION SCORES

	N	<u>Self-Sex Identification Scores</u>			<u>Opposite Sex Identification Scores</u>		
		M	t	P	M	t	P
Males	64	6.91	1.14	N.S.	6.80	1.25	N.S.
Females	36	6.42			6.19		

In Table 8 are found the results obtained on the male and



female differentiation scores. The male mean was 13.80 which was not significantly different from the female mean of 12.61. This finding shows that males and females differentiated between the sexes equally as well.

TABLE 8  
COMPARISON OF MALE AND FEMALE SEXUAL DIFFERENTIATION SCORES

	N	M	S.D.	t	P
Male	64	13.80	4.01	1.40	N.S.
Female	36	12.61	4.23		

Additional results pertaining to the DAP and the tendency to draw the self-sex figure first were also obtained. Looking at Table 9, it is seen that the tendency was for male subjects to draw the self-sex figure first; however,

TABLE 9  
COMPARISON OF NUMBER OF SUBJECTS OF BOTH SEXES WHO DREW SELF-SEX FIGURE FIRST AND THOSE WHO DREW OPPOSITE SEX FIGURE FIRST

	N	Expected No.	$\chi^2$	P
<u>Males</u>				
Self-Sex Figure First	57	32	39.06	.01
Opposite Sex Figure First	7	32		
<u>Females</u>				
Self-Sex Figure First	21	18	.46	N.S.
Opposite Sex Figure First	15	18		

it was not for females. The Chi Square for the male subjects was 39.06 which was significant at the .01 level of confidence. The Chi Square of .46 for females was not significant.

Table 10 reveals that the proportion of males who drew the self-sex figure first was greater than that of females who drew the self-sex figure first. The Chi Square of 12.68 was significant at the .01 level of confidence.

TABLE 10

COMPARISON OF NUMBER OF MALES AND FEMALES WHO DREW SELF-SEX FIGURE FIRST AND THOSE WHO DREW OPPOSITE SEX FIGURE FIRST

	N	Expected No.	x <sup>2</sup>	P
<u>Males</u>				
Self-Sex Figure First	57	49.92		
Opposite Sex Figure First	7	14.08		
			12.68	.01
<u>Females</u>				
Self-Sex Figure First	21	28.08		
Opposite Sex Figure First	15	7.92		

b. The Interest Scale (Mf)

Additional analysis of the Mf scale relative to the present study was conducted. A comparison was made between the manual's norms and the author's results on the Mf scale. The results of this study are set forth in Table 11. This table shows that for males and females there was a significant difference between the manual's norms and the author's

results. The means for the author's T scores were 56.05 for the males and 58.15 for the females. These were significantly higher than are the means of 50 reported in the manual. This finding indicates that the author's male subjects were more feminine than those used in the manual's normative population; and also, that the author's female subjects were more masculine. A similar finding has also been reported by Tyler and Michaelis (14) who conducted a study on the comparison of the MMPI manual norms and college norms. The results of this study were that the male and female means were higher on the Mf scale scores than were those reported in the manual indicating a deviation of the basic interest pattern in the direction of the opposite sex.

TABLE 11

COMPARISON OF MANUAL NORMS AND AUTHOR'S RESULTS  
OF THE Mf SCALE

	N	M	S.D.	t	P
<u>Males</u>					
Manual Norms	117	50	10	4.32	.01
Author Results	64	56.05	6.32		
<u>Females</u>					
Manual Norms	108	50	10	4.55	.01
Author Results	36	58.15	5.86		

A partial explanation for the above may be found by examining the composition of the populations used. The

author's subjects were chosen from a college population. The manual's subjects were chosen from a non-college population. It is possible that college students deviate in their basic interest pattern in the direction of the opposite sex.

c. The Personal Preference Scale

Further exploration was also done on the 7th and 8th sections of the PPS. A comparison was made for each sex between their 7th and 8th section scores. Examination of Table 12 reveals that for males and females there was a significant difference found between the scores on the 7th and 8th sections. For males, the mean on the 8th section was 14.00 which was significantly higher than was their mean

TABLE 12

COMPARISON OF THE 7th AND 8th SECTIONS OF THE PERSONAL PREFERENCE SCALE FOR MALES AND FEMALES

	N	M	S.D.	t	P
<hr/>					
<u>Males</u>	64				
PPS 7 Scores		4.52	3.20	17.95	.01
PPS 8 Scores		14.00	2.75		
<u>Females</u>	36				
PPS 7 Scores		14.33	3.53	6.02	.01
PPS 8 Scores		9.44	3.37		
<hr/>					

of 4.52 on the 7th section. For females, the mean on the 7th section was 14.33 which was significantly higher than was their mean of 9.44 on the 8th section. This is in

keeping with the sections' theoretical assumptions and indicates that the sections measured some aspects of masculine and feminine personality components.

Referring to Table 13, it is seen that a significant difference was found between the males' and females' 7th section scores and also between their 8th section scores. The males' mean on the 7th section was 4.52 which was significantly lower than the females' mean of 14.33. The males' mean on the 8th section was 14.00 which was significantly higher than the females' mean of 9.44. These results show that the male and female subjects related to their appropriate sections, 8 and 7, respectively.

TABLE 13

COMPARISON BETWEEN MALE AND FEMALE SCORES IN THE 7th SECTION  
AND IN THE 8th SECTION OF THE PERSONAL PREFERENCE SCALE

	N	7th section			8th section		
		M	t	P	M	t	P
Males	64	4.52	14.22	.01	14.00	7.33	.01
Females	36	14.33			9.44		

## **BIBLIOGRAPHY**

## BIBLIOGRAPHY

1. Buck, J. N. Administration and interpretation of the H-T-P Test: proceedings of the H-T-P workshop held at Veterans Administration Hospital, Richmond 19, Virginia, March 31, April 1, 2, 1950. Calif.: Western Psychological Services, 1950.
2. Caligor, L. The determination of the individual's unconscious conception of his own masculinity-femininity identification. J. proj. Tech., 1951, 15, 494-515.
3. Goodenough, Florence L. Measurement of intelligence by drawings. Chicago: World Book Co., 1954.
4. Granick, S., & Smith, L. Sex sequence in the DAP test and its relation to the MMPI Mf scale. J. consult. Psychol., 1953, 17, 71-73.
5. Hathaway, S., & McKinley, J. C. Manual for the Minnesota Multiphasic Personality Inventory. New York: The Psychological Corp., 1943.
6. Krout, M. H., & Krout, Johanna. A guide to Personal Preference Scale. Chicago: The Chicago Psychological Institute, 1953.
7. Krout, M. H., & Tabin, Krout, Johanna. Measuring personality in developmental terms: the PPS. Genet. Psychol. Monogr., 1954, 50, 291-233.
8. Machover, Karen. Drawing of the human figure: a method of personality investigation. In H. H. Anderson, & Gladys L. Anderson, (eds.), An introduction to projective techniques. New Jersey: Prentice-Hall, 1956. 341-369.
9. Machover, Karen. Personality projection in the drawing of the human figure. Springfield, Ill.: Charles C Thomas, 1957.
10. Murphy, M. Sexual differentiation of male and female job applicants on the DAP test. J. clin. Psychol., 1957, 13, 87-88.

11. Stagner, R. Lawson, E. D., & Mofitt, J. W. The Krout Personal Preference Scale: a factor analytic study. J. clin. Psychol., 1955, 11, 37-41.
12. Swensen, C. H., & Newton, K. The development of sexual differentiation in the Draw-A-Person test. J. clin. Psychol., 1955, 11, 417-420.
13. Swensen, C. H. Sexual differentiation on the Draw-A-Person test. J. clin. Psychol., 1955, 11, 37-41.
14. Tyler, F. T., & Michaelis, J. V. A comparison of manual and college norms for the MMPI. J. appl. Psychol., 1953, 37, 273-275.



## **APPENDIX**

21

C

A

S

S

M

DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

COMPLETE THE FOLLOWING INFORMATION:

Age: \_\_\_\_\_

Sex:    Male            Female    (circle one)

Year in school:   Freshman   Sophomore   Junior   Senior (circle one)

This inventory consists of numbered statements.. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to mark your answers on the spaces to the right of each statement. Look at the example of the correctly marked answers at the bottom of this page. If a statement is TRUE or MOSTLY TRUE, as applied to you, blacken between the lines in the column headed T. (See A at the bottom.) If a statement is FALSE or NOT USUALLY TRUE, as applied to you, blacken between the lines in the column headed F. (See B at the bottom.) If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces if you can avoid it.

In marking your answers, be sure that the number of the statement agrees with the numbered space to the right of the statement.

Make your marks heavy and black. Erase completely any answer you wish to change.

Remember, try to make some answer to every statement.

NOW TURN TO THE NEXT PAGE AND GO AHEAD.

---

Section of answer column  
correctly marked

	T	F
A	■	::
B	::	■

---

## THE Mf SCALE

		T	F
1. I like mechanics magazines.	1	::	∴
2. I think I would like the work of a librarian.	2	::	∴
3. When I take a new job, I like to be tipped off on who should be gotten next to.	3	::	∴
4. I would like to be a singer.	4	∴	::
5. I feel that it is certainly best to keep my mouth shut when I'm in trouble.	5	::	∴
6. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.	6	::	∴
7. I am very strongly attracted by members of my own sex.	7	∴	::
8. I used to like drop-the-handkerchief.	8	::	∴
9. I have often wished I were a girl (Or if you are a girl) I have never been sorry that I am a girl.	9	∴	::
10. I enjoy reading love stories.	10	∴	::
11. I like poetry.	11	::	∴
12. My feelings are not easily hurt.	12	::	∴
13. I sometimes tease animals.	13	::	∴
14. I think I would like the kind of work a forest ranger does.	14	∴	::
15. I would like to be a florist.	15	∴	::
16. It takes a lot of argument to convince most people of the truth.	16	∴	::
17. I would like to be a nurse.	17	::	∴
18. I like to go to parties and other affairs where there is lots of loud fun.	18	::	∴

GO ON TO THE NEXT PAGE

		T	F
19.	I frequently find it necessary to stand up for what I think is right.	19	:: ::
20.	I believe in a life hereafter.	20	:: ::
21.	I enjoy a race or game better when I bet on it.	21	:: ::
22.	Most people are honest chiefly through fear of being caught.	22	:: ::
23.	My table manners are not quite as good at home as when I am out in company.	23	:: ::
24.	I like dramatics.	24	:: ::
25.	I like collecting flowers or growing house plants.	25	:: ::
26.	I have never indulged in any unusual sex practices.	26	:: ::
27.	At times my thoughts have raced ahead faster than I could speak them.	27	:: ::
28.	I like to cook.	28	:: ::
29.	I would like to be a soldier.	29	:: ::
30.	I used to keep a diary.	30	:: ::
31.	I do not have a great fear of snakes.	31	:: ::
32.	I am worried about sex matters.	32	:: ::
33.	My hands have not become clumsy or awkward.	33	:: ::
34.	I daydream very little.	34	:: ::
35.	If I were a reporter I would very much like to report news of the theater.	35	:: ::
36.	I would like to be a journalist.	36	:: ::
37.	In walking I am very careful to step over sidewalk cracks.	37	:: ::

GO ON TO THE NEXT PAGE

		T	F
38.	I have never had any breaking out on my skin that has worried me.	38 ::	44
39.	I frequently find myself worrying about something.	39 ::	44
40.	I think I would like the work of a building contractor.	40 ::	44
41.	I like science.	41 ::	44
42.	I very much like hunting.	42 ::	44
43.	Some of my family have habits that bother and annoy me very much.	43 ::	44
44.	I should like to belong to several clubs or lodges.	44 ::	44
45.	I like to talk about sex.	45 ::	44
46.	I have been disappointed in love.	46 ::	44
47.	I believe there is a Devil and a Hell in afterlife.	47 ::	44
48.	I like to be with a crowd who play jokes on one another.	48 ::	44
49.	I was a slow learner in school.	49 ::	44
50.	If I were an artist I would like to draw flowers.	50 ::	44
51.	It does not bother me that I am not better looking.	51 ::	44
52.	I am entirely self-confident.	52 ::	44
53.	I have often felt that strangers were looking at me critically.	53 ::	44
54.	Most people make friends because friends are likely to be useful to them.	54 ::	44
55.	Once in a while I feel hate toward members of my family whom I usually love.	55 ::	44

GO ON TO THE NEXT PAGE

T F

56. If I were a reporter I would very much like to report sporting news. 56 :: ::
57. I like "Alice in Wonderland" by Lewis Carroll. 57 :: ::
58. I wish I were not bothered by thoughts about sex. 58 :: ::
59. I think that I feel more intensely than most people do. 59 :: ::
60. There never was a time in my life when I liked to play with dolls. 60 :: ::

Personal Preference Scale, 7th and 8th Sections

46

VII

- L FI D 1. Reading to sick people
- L FI D 2. Ballet dancing
- L FI D 3. Reading fashion reports
- L FI D 4. Using perfume
- L FI D 5. Being a private secretary
- L FI D 6. Sleeping in a nightgown
- L FI D 7. Being a model
- L FI D 8. Wearing nail polish
- L FI D 9. Preparing meals
- L FI D 10. Strong athletic girls

VIII

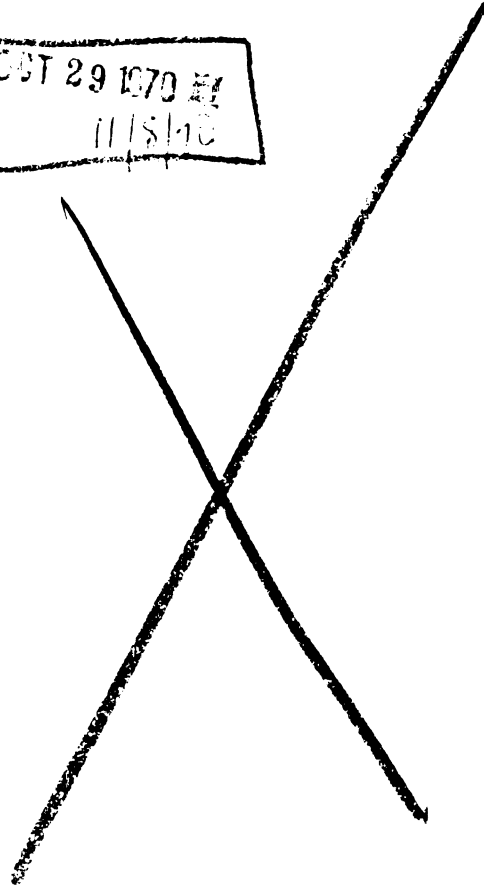
- L FI D 1. Using profanity at times
- L FI D 2. Very modest men
- L FI D 3. Reading sports page
- L FI D 4. Dependent women
- L FI D 5. Using firearms
- L FI D 6. Wearing boots
- L FI D 7. Good discipline
- L FI D 8. Wood-carving
- L FI D 9. Running track
- L FI D 10. Playing football



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