THE SIZE OF HUMAN FIGURE DRAWING AS A FUNCTION OF INDIVIDUAL OR GROUP ADMINISTRATION

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An Abstract

Presented to

the Graduate Council of

Austin Peay State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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by

Cean Tillett Wilee

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ABSTRACT

Past research in the area of human figure drawing and, more specifically, its relationship to level of self-esteem, is replete with conflicting evidence. Thus, the basic premise of this study was to investigate this relationship in an attempt to resolve some of the contradictions.

The present study was designed with several purposes in mind. First, the relationship between scores on the Texas Social Behavior Inventory and size of human figure drawings was to be investigated. A second purpose of the study was to directly investigate the effects of group versus individual administration of the Draw-A-Person Test. Third, the Coopersmith Self-Esteem Inventory was to be administered simultaneously with the Texas Social Behavior Inventory in order to determine what relationship, if any, existed between these two instruments. Lastly, the feasibility of using normal adult subjects in studies of this type was to be investigated.

The results of the group-administration condition (i.e., no significant differences) are supportive of the contention that peer pressure may be operative in this type of testing situation to such an extent that the results are obscured. However, a significant, positive relationship between level of self-esteem and size of drawing was obtained under the individual-administration condition.

A strong, positive relationship was found to exist between scores on the Texas Social Behavior Inventory and the Coopersmith Self-Esteem

Inventory. The continued use of normal adult subjects appears to be warranted by the results of the present study.

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Cean Tillett Wilee

July 1975

To the Graduate Council:

I am submitting herewith a Thesis written by Cean Tillett Wilee entitled "The Size of Human Figure Drawing as a Function of Individual or Group Administration." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Stephen F. Davis
Major Professor

We have read this thesis and recommend its acceptance:

Linda Rudolph
Minor Professor

Garland E. Blair
Third Committee Member

Accepted for the Council:

Wayne C. Stamps
Dean of the Graduate School

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CHAPTER I

INTRODUCTION

According to Hammer (1960), during the past twenty years the use of projective drawings as a clinical tool has moved relatively rapidly into a secure position in the projective-test battery. In addition to Buck's (1948) House-Tree-Person (HTP) Test and Machover's (1949) Draw-A-Person (DAP) Test, clinicians tend also to employ one or more of the following: Kinetic Family Drawings (KFD), Kinget's Drawing Completion Test, Schwartz's Draw-An-Animal approach, Harrower's Unpleasant Concept Test, and free doodles.

The development of human figure drawing as a projective technique came about more through serendipity than through willful development (i.e., they were offshoots of intelligence scales). Machover's (1949) DAP grew from her experience with the Goodenough tool for appraising children's intelligence. Similarly, Buck's (1948) HTP device developed out of a subsection of an intelligence scale he was constructing. Buck (1948), having observed that numerous non-intellectual, personality factors appeared in the drawings, extracted the HTP drawing test from his intelligence scale, and turned it into a productive projective technique.

Projective drawings serve a special function in a testing-battery in that they provide a minimally threatening, yet maximally absorbing introduction to the testing situation. Machover (1949) indicates that

one of the greatest advantages of the human figure drawing technique is the time and material involved. Drawings can be done any place and any time that a piece of paper and pencil can be made available. The average time required for the drawing of two figures is from 10 to 20 minutes. One simply asks the subject to "draw a person," after he (she) is given a piece of paper (8½" x 11") and a pencil with an eraser. Machover (1949) suggests that identifying data, preliminary questions of the subject, approximate time, sequence of the parts drawn, and spontaneous comments be written on another sheet. Upon completion of the first drawing, the subject is given the blank side of the page on which the examiner's notes were made and is asked to draw a person of the opposite sex from that of the first figure drawn. Machover (1949) feels that, whenever possible, both drawings should be obtained but if time permits only one to be drawn, the subject should draw a figure of his own sex. If the subject protests about drawing, Machover (1949) points out that he should be assured that the examiner is not interested in his artistic ability but in how he tries to make the person. Associations have been found to be helpful in obtaining information that may aid in the figure's interpretation.

The DAP Test has been employed in a variety of areas which include its use with obese women (Kothov & Goodman, 1953), schizophrenics (Holzberg & Wexler, 1950), psychopathic prisoners (Craddick, 1962), college students (Lehner & Gunderson, 1953; Craddick, 1963), institutionalized and noninstitutionalized aged (Lakin, 1960), black and white juvenile incarcerates (Baugh & Prytula, 1974), institutionalized orphans (Prytula & Leigh, 1972), male narcotic addicts (Pantleo & Kelling, 1972), male alcoholics (Craddick & Leipold, 1968), normal elementary school children

(Prytula & Thompson, 1973), junior high school students (Ludwig, 1969), and psychotically depressed female patients (Salzman & Harway, 1967).

Two other popular human figure drawing techniques in clinical use are the HTP Test and the KFD. Hammer (1960) indicates that in the administration of the HTP Test, the subject is instructed to draw as well as he can but is not told what kind of "house," "tree," or "person" to draw. All three drawings are obtained on separate sheets of 8½" x 11" paper. After drawing the "person," the subject is given another sheet of paper and asked to draw a person of the opposite sex to that of the first person drawn.

Buck (1948) indicates that the "house," as a dwelling place, is thought to arouse within the subject associations concerning home life and intrafamilial relationships and that these, in turn, are projected into this drawing. Buck (1948) feels that the "tree" drawing reflects the subject's relatively deeper and more unconscious feelings about himself, while the "person" drawn expresses the subject's "closer-to-conscious" view of himself. Hammer (1960) suggests that it may be easier for a subject to attribute more conflicting or emotionally disturbing negative traits and attitudes to the drawn "tree" than to the drawn "person" because the former is less "close to home" as a self-portrait (p. 263). Buck (1948) feels that the drawing of the "person" may elicit one of three main types: a self-portrait, an ideal self, or a depiction of one's perception of significant others. The subject draws what he feels himself to be, which may include physical defects and/or physical assets. Additionally, the subject is thought to project a picture of his psychological self. Often the subject will draw a picture of what he

presently feels himself to be, his ego ideal. According to Buck's (1948) discussion, the third type of projection to be found in the "person" drawing is significant others. Most often, this is the subject's depiction of a significant person in his contemporary or past environment, due to that person's strong positive or negative valence for the subject. This type of projection is thought to be found most often in children's drawings with the "other" person representing a parental figure. Hammer (1960) feels that subjects' drawings tend to reflect their view of themselves "as they are, as they fear they might become, or as they would like to be" (p. 27).

A more recently developed human figure drawing technique which is often employed with children is the KFD. Burns and Kaufman (1970) suggest that the use of kinetic (action) instructions (i.e., asking the subject to produce a drawing where figures are moving or doing something) produces much more valid material in an attempt to understand the psychopathology of children in a family setting. In obtaining the drawings, the child is given a sheet of white 8½" x 11" paper and a pencil and is given these instructions:

> Draw a picture of everyone in your family, including you, doing something. Try to draw whole people, not cartoons or stick people. Remember, make everyone doing something--some kind of action. (Burns & Kaufman, 1970, pp. 19-20)

The analysis of kinetic drawing focuses on the action or movement, rather than inert figures. Burns and Kaufman (1970) describe the two styles of drawing characteristics as compartmentalization (i.e., attempting to isolate themselves and their feelings from other family members) and underlining (i.e., drawing a line across the bottom of the page). They (Burns & Kaufman, 1970) list the actions in drawings found to be

most characteristic of mothers as cooking, cleaning and ironing. Those found to be most characteristic of fathers include household activities (i.e., reading the paper, paying the bills, playing with the children), driving to or at work, and cutting activities (i.e., mowing the lawn, chopping, etc.). Burns and Kaufman (1970) discuss one additional action that frequently appears in the KFD: rivalry. This is often depicted as a force or action between members of the family (i.e., throwing a ball, knife, airplane). In the opinion of Burns and Kaufman (1970), the KFD is a meaningful technique which can provide "dynamic" information concerning children and their relationship to the family setting.

The previously mentioned projective techniques are quite popular. In fact, Sundberg (1961) states that the DAP Test is the second most widely used psychological instrument in clinics and hospitals. Regardless of the human figure drawing technique employed, they all appear to serve a basic purpose. According to Hammer (1960), "the drawing page serves as a canvas upon which the subject may project a glimpse of his inner world, his traits and attitudes, his behavioral characteristics, and his basic personality strengths and weaknesses" (p. 258).

Machover (1949) views the drawing of a person as involving the projection of a "body image" which provides a "natural vehicle" for the expression of one's body needs and conflicts. Concerning the constancy of drawings, Machover (1949) has indicated from her observations over a period of time that the structural and formal aspects of a drawing such as size, line, and placement, are less subject to variability than content, such as body details, clothing and accessories. More specifically, she indicates that:

> The size of the figure, where it is placed on the sheet, the rapidity of graphic movement, the pressure, the solidity and variability of the line used, the succession of parts drawn, the stance, the use of background or grounding effects, the extension of arms toward the body or away from it, the spontaneity or rigidity, whether the figure is drawn profile or front view are all pertinent aspects of the subject's self-presentation. (p. 35)

Machover (1949) suggests that size and placement of the figure are less subject to conscious control and variability than are other structural aspects of a drawing. She further hypothesizes that if the figure projected on the page is displaced toward the right-hand side, the person drawing it is environment oriented. However, if the picture is displaced toward the left, Machover (1949) feels this is characteristic of a self-oriented individual. Moreover, placement of the picture high up on the page is related to optimism, whereas placement low down on the page is related to depression.

Concerning the size of the figure, Machover (1949) contends that large figures are related to high self-esteem and high energy levels, whereas small figures are indicative of low self-esteem and low energy levels. In support of this contention, she points out that the very large figure, placed aggressively in the center of the page is seen most often in the grandiose paranoid individual who possesses "high fantasy self-esteem." This is to be contrasted with the paranoid conditions usually associated with chronic alcoholism, involutional changes, or senility in which self-esteem is definitely not high and the drawn figure is correspondingly small. According to Machover (1949), tiny figures may also be noted in regressed and vegetative schizophrenics as an expression of "low energy level and a shrunken ego." Micrographic (i.e., very small) figures are also encountered frequently in the deeply repressed and

neurotically depressed individual. It is apparent from Machover's (1949) viewpoint, then, that the size of the figure drawn is, indeed, related to the individual's level of self-esteem.

Despite its popularity and frequent use, there is much conflicting evidence in research findings concerning the DAP Test, particularly in regard to those studies dealing with the size variable of the figure in relation to the level of self-esteem. In Swensen's (1957) earlier review of the literature and again in his more recent review (1968), he concludes that conflicting evidence exists concerning Machover's (1949) hypothesis on the size variables of human figure drawings. Roback (1968) in his review of the literature also indicates that there is a good deal of inconsistency in the findings dealing with the size hypothesis.

Among those studies which lend support to the size hypothesis was one done by Lehner and Gunderson (1953). They found that men tend to draw larger pictures the older they get, until they reach 30 years of age. After age 30, figures tend to be drawn consistently smaller. Women also tend to draw larger pictures until they reach age 40, but beyond that age they also tend to draw consistently smaller figures. The authors conclude that this is a reflection of the self-evaluation of the individuals (i.e., as a person gets older and more capable, he tends to draw larger figures but after the "prime of life," he feels older and less capable, and thus draws smaller figures).

Cramer-Azima (1956) studied the drawings of a patient undergoing adrenocorticotropin hormone treatment for beryllium-dust poisoning and noted a marked change in the figures drawn before, during, and after the

treatment period. Before treatment, the depressed subject drew small, constricted figures. The subject, much improved during treatment, drew somewhat larger figures on the 10th day. On the 21st day of treatment, the subject became verbally aggressive, and his drawings increased approximately 3 inches in size. Two months after termination of the treatment, the subject's drawn figures had decreased 2 inches. It appears that this study supports Machover's (1949) hypothesis that depressed subjects often draw constricted figures, and that aggressive personalities may be seen as drawing large figures.

Kothov and Goodman (1953) found in their study of obese and non-obese (normal) women, that the obese subjects tended to draw figures that covered more of the horizontal area on the page than did the normal weight subjects. Although it appears that the results of the study support the projection of the "body image" into the drawing, the authors feel that certain "dynamic personality principles" were operating in the determination of the differences between the groups.

Studies concerned with direct manipulation of the subjects' self-esteem to determine its effect on the size of the figures drawn include one done by Gray and Pepitone (1964). Self-esteem was experimentally manipulated by giving the subjects a series of personality tests, then reviewing the test results with the subjects in a way that would either enhance or deflate their self-esteem. The results showed that the drawings of high self-esteem subjects (enhanced condition) covered significantly more area than the drawings of low self-esteem (deflated condition) subjects. A similar study reported by Ludwig (1969) was concerned with the relationship between the self-perception of junior high

school students in gym classes, and the size of drawn figures. Subjects first rated themselves on a Physical-Self scale in order to determine their feelings about their physical abilities, and then completed the DAP Test. Two months later, subjects were randomly placed in either "negative" or "control" groups. The negative group was told that they would be evaluated on how well they could perform given physical tasks, while the control group was told that they would not be evaluated but that "specialists" (experimenters) were trying to determine how well physical tasks could be performed for boys of given ages and sizes. During an exercise involving eight physical tasks, negative comments were made to the negative group, while no comments were made to the control group. Following this procedure, all subjects were readministered the tests given during the first session and told to disregard what he had put down the first time because "up-to-date" information was needed. The findings indicated that negative feedback from "experts" apparently forced subjects to lower their evaluation of physical abilities. This apparently lowered self-esteem was displayed via the constriction of the height of the drawing. In this case, it would appear that level of self-esteem was related to the height of the figure drawn.

Investigations of level of self-esteem and size of figures drawn in institutionalized and noninstitutionalized subjects is another area which has displayed inconsistent findings. Lakin (1960) investigated the hypothesis that institutionalized aged subjects would have lower self-esteem than noninstitutionalized aged, and, therefore, would draw smaller figures. His hypothesis was confirmed when he found that noninstitutionalized aged drew larger and taller figures than the institutionalized

aged. Opposing these results are findings reported by Prytula and Leigh (1972). Their study on the absolute and relative figure drawing size in institutionalized orphans investigated the hypothesis that institutionalized orphans would draw figures of significant missing persons, self, and other figures smaller (i.e., because of their lower self concept and absence of significant persons) than children from intact families. The hypothesis was not confirmed because results indicate that institutionalized orphans, in fact, drew significantly larger figures and objects than did noninstitutionalized children.

Two studies concerned with race, self-esteem and human figure drawings were reported by McHugh (1963), and Baugh and Prytula (1974). McHugh (1963) hypothesized that Negro and Puerto Rican children had lower self-esteem than white children and therefore, would draw smaller figures than white children. But his findings did not receive consistent support in that only the Puerto Rican children drew significantly shorter figures. A related study by Baugh and Prytula (1974) investigated the predictive relationship between matched groups of black and white juvenile incarcerates and various factors on the DAP (including size). Their findings indicate that black juveniles drew significantly taller figures than those drawn by whites, thus supporting the recent findings that self-esteem for black youths is higher on the average than for white youths (see Prytula & Leigh, 1972; Prytula & Thompson, 1973). With this in mind, the results of this study give support to Machover's (1949) hypothesis regarding the relationship of figure drawing size to self-esteem.

Hammer (1958) has suggested that drawing size can be related to "fantasy self-inflation" as well as realistic self-esteem. It would be

expected then, that abnormal populations would exhibit "fantasy self-inflation" (i.e., paranoids and behavior disorders would draw large drawings). McHugh (1966) found that children suffering from conduct disturbances did draw significantly larger figures than neurotic children from a mental health clinic. Rosenberg (1965) found in a series of drawings from a paranoid male that as the patient improved, his drawings, which were initially large, became smaller. A study by Holzberg and Wexler (1950) found that significant discriminations between normals and schizophrenics, and between normals and hebephrenics could be made on the basis of size of figures drawn. Relative to the schizophrenics and hebephrenics, the normal subjects drew more constricted figures. The authors conclude that in schizophrenics and hebephrenics, there was greater expansiveness and less control over motor behavior than in normals.

Other studies relating figure size to pathology, which could be pertinent to a consideration of self-esteem, have offered some positive evidence. It has been hypothesized that shy children and depressed adults would have low self-esteem. Supportive of this position, Koppitz (1966) found that shy children drew small figures, and Lewinsohn (1964) found that depressed patients also drew small figures. But again, there is conflicting evidence to be found in the literature. For example, Exner (1962) found no relationship between size of drawings and diagnosis of character disorder. Reznikoff and Nicholas (1958) found no relationship between figure size and carefully determined behavioral indications of paranoid pathology. Craddick (1962) found no relationship between size of the figure and criminal psychopathy. Roback and Webersinn (1966) found no significant differences between height of figures drawn by

depressed and non-depressed groups when physicians' ratings were used as criterion for depression. However, they did find a significant difference in the height of the drawings between depressed and non-depressed female patients when the depression criterion was determined by an elevated D scale on the MMPI. However, these results were not duplicated for male patients. Salzman and Harway (1967) compared the size of human figure drawings of a group of psychotically depressed female patients with those of a non-depressed normal control group. After receiving electroconvulsive therapy treatments, the DAP was then readministered to the psychotic patients. The findings did not support the hypothesis that a relationship exists between depression and size of figure drawings.

Closely related to these pathological studies are investigations of the effect that drug addiction and alcoholism have on the level of self-esteem and figures that are drawn. Pantleo and Kelling (1972) compared the drawings of institutionalized narcotic addicts with other deviants in earlier studies in order to try and quantify some aspects of human figure drawings. It was shown that male narcotic addicts (Negro and Mexican-American) drew significantly larger female figures than male figures. Anglos drew male figures slightly but not significantly larger than female figures. Also, in comparison with other incarcerated deviants, a larger proportion of narcotic addicts drew larger female figures. It was suggested that the smaller drawings of the male figures were related to their lowered level of self-esteem. Craddick and Leipold (1968) investigated the hypothesis that male alcoholics would draw male figures smaller than females since more anxiety was attached to their own body image. The results support the hypothesis in that the alcoholics did draw significantly smaller

male figures. This offers some support to Machover's (1949) "size" hypothesis.

Studies using normal subjects in investigating self-esteem and size of the figure drawn include a study by Prytula and Thompson (1973). They used as subjects 10- through 13-year-old students that were high or low self-esteem (according to scores obtained on Coopersmith's Self-Esteem Inventory), and found that their results did not offer consistent support for any relationship between the size variable and self-esteem. Bennett (1964) found no significant relationship between figure size and self-esteem, as measured by the Q sort, for sixth-grade children.

A study, not closely related, but concerned with figure size was reported by Shry (1966). He hypothesized that subjects who drew the same sex figures larger than the opposite sex figure would be more dominant or less submissive than those subjects who drew the same sex figure smaller than the opposite sex figure. Using females and males from university sorority and fraternity houses, respectively, the results failed to reveal personality correlates for any of the DAP size measures.

As can be seen from the above-mentioned studies, there appears to be a good deal of inconsistency in research findings concerning Machover's (1949) hypothesis of the relationship between size of figure drawing and the level of self-esteem.

Just what is contributing to the inconsistency in these results, one may only speculate at this point. However, two factors which may influence research in this area are: (1) the measure of self-esteem that is employed, and (2) the type of administration situation (i.e.,

group or individual) that is employed for the DAP Test.

Before one inquires into the measurement of self-esteem, it would appear that a definition of this variable should be considered. Self-esteem has been defined by Coopersmith (1967) as "a personal judgment of worthiness that is expressed in the attitudes the individual holds toward himself" (p. 5). Coopersmith (1967) indicates that there are four major factors which contribute to the development of self-esteem:

> (1) The amount of respectful, accepting, and concerned treatment that an individual receives from the significant others in his life (i.e., we value ourselves as we are valued). (2) Our history of successes and the status and position we hold in the world also contribute to our self-esteem. Our successes form the basis in reality for self-esteem and are measured by the material manifestations of success and by indications of social approval. (3) Thus our experiences are interpreted and modified in accordance with our values and aspirations. (4) The individual's manner of responding to devaluation also contributes to his self-esteem (p. 37).

With, hopefully, a better perspective of self-esteem, one can now return to the question of measuring it. In the previously-mentioned studies, it can be seen that self-esteem measures have included: Q sorts, self-esteem inventories, 7-point polar adjective scales, self scales, and sheer speculation. Because of the variety of measures used in the various studies, this could have a bearing on the inconsistency of the results which have been reported. Additionally, one must also confront the problem of the validity of each one of this myriad of measuring techniques. Obviously, this is a most difficult area which has yet to be fully clarified.

One measure of self-esteem that has been frequently employed is the Coopersmith Self-Esteem Inventory (SEI). Although some investigations

recommend its use with both children and adults (see Prytula & Thompson, 1973), it is the opinion of this writer that this particular scale may not be appropriate for use with older subjects. Coopersmith (1967) indicates that all statements on this scale were designed for use with children age 8 to 10 years. Obviously, the inappropriate use of this scale with adult subjects might be one source of the inconsistencies that have been reported. On the other hand, very few self-esteem scales have been developed and investigators, in the past, may have been forced to employ this particular one.

The Texas Social Behavior Inventory (TSBI) is a relatively new instrument which, according to Helmreich, Stapp, and Ervin (1974), is an "objective measure of self-esteem or social competence." The TSBI has proved useful as a means of categorizing research populations of adult subjects on the dimension of self-esteem. Concerning the validity of the TSBI, it has been shown to correlate highly and positively with another measure of self-esteem, the self-esteem scale of the California Personality Inventory. Physically, the TSBI consists of 32 items (declarative statements) for which there are five response alternatives each. The response alternatives include: "Not at all characteristic of me," "Not very," "Slightly," "Fairly," and "Very much characteristic of me." This variety of responses gives the subject more answering flexibility than the forced-choice responses ("Like me" vs. "Unlike me") utilized by the Coopersmith scale. Additionally, the TSBI appears to be a highly reliable instrument (r = .94 for males, r = .93 for females) for evaluating self-perceptions of social competence or self-esteem. At present, however, no studies have been reported which

investigate the relationship of TSBI scores and size of human figure drawings. Hence, one purpose of the present study was to investigate this relationship.

As already mentioned, another factor which may effect the outcome of studies investigating the relationship of self-esteem and size of figure drawings is whether the administration of the DAP Test is done in the group or individual situation. A review of size and self-esteem literature by Hollings (1975) indicated that significantly more significant results were obtained by those studies in which individual administration of the DAP was used. One possible explanation for this difference between individual and group studies is that "peer pressure" could be operating in the group situation, making the size of the drawings more homogeneous.

According to Broom and Selznick (1968), the peer group represents a system of rewards and punishments, of approval and disapproval to the individual. In society, it would appear that people look primarily to their contemporaries for guidance and direction (i.e., man values most the judgment and approval of others in his environment). Again, according to Broom and Selznick (1968), the existence of the peer group is a powerful force for conformity. Conformity has been defined as "a change in a person's behavior or opinions as a result of real or imagined pressure from a person or group of people" (Aronson, 1972, p. 16). In a classic study by Asch (1951), it was found that when subjects were faced with a majority of their fellow subjects agreeing on the same incorrect responses in a series of judgments, approximately one-quarter of the subjects conformed at least once by responding incorrectly to a

perceptual judgment task. When the entire set of judgments was viewed, it was found that an average of 35% of the overall responses conformed to the incorrect judgments given by Asch's accomplices.

Another conformity study reported by Crutchfield (1955) involved business or military men who were situated in front of an apparatus consisting of five adjacent electrical panels. Each panel formed a cubicle which prevented the subject from seeing the panels of his four fellow subjects. Questions were in multiple choice form and the subjects received "feedback" from the other subjects as to their choices. However, the feedback was actually provided by the experimenter. Each subject was informed of the choices of his peers before he responded. Crutchfield's (1955) results strongly indicated that conformity was operating.

Obviously, this same conformity factor may, indeed, be operating when subjects are given the DAP in group situations rather than individually. More specifically, interaction between the subjects (peers) (i.e., looking at and/or comparing drawings, discussion of the drawings, and embarrassment over their drawings) may tend to influence the subject's projection of his true feelings into his drawings, and hence obscure any relationship between level of self-esteem and the size of the drawing. Hence, a second purpose of the present study, in addition to ascertaining the relationship of TSBI scores and size of drawings, was to directly investigate the effect(s) of group versus individual administration of the DAP. In addition, the Coopersmith SEI will be administered simultaneously with the TSBI in order to determine what relationship, if any, exists between these two instruments when they are used with adult subjects.

CHAPTER II

METHOD

Subject

The subjects consisted of male and female undergraduate students enrolled at Austin Peay State University. The subjects ranged in age from 18 to 52 years, with a mean age of 21 years, 2 months. Both Blacks and Caucasians were included in the sample. Initially, a total of 212 subjects were administered the Coopersmith SEI and the TSBI. Of these 212 subjects a total of 141 volunteered to participate in the second phase of the study: administration of the DAP.

Apparatus

The TSBI and SEI were administered to ascertain level of self-esteem. The DAP Test consisted of three sheets of 8½" x 11" white paper, with one of three words, MAN, WOMAN, or MYSELF, respectively, on each sheet. Number two pencils with erasers were provided for each subject.

Procedure

The administration of the two self-esteem inventories took place in the regular classroom setting. Subjects were seated at individual desks spaced so as to keep them from seeing responses made by adjacent subjects. One person served as the examiner in all cases.

During the first session with each class, the subjects were given the following instructions:

> I am giving you two separate questionnaires. On the back of each there is a place to fill in your student number, age and sex. Please be sure to fill in this information completely and correctly, as I will need your cooperation later. Please answer all questions honestly and seriously. There are no right or wrong answers. Are there any question?

Following these instructions, the questionnaires were distributed to the subjects. In all cases the questionnaires were stapled together with the TSBI appearing first for one-half the subjects and the Coopersmith SEI appearing first for the remaining subjects. Distribution of the questionnaires was random. If the subjects raised questions concerning the statements on the inventories, the examiner told the subject to "answer the best you can." No time limit was imposed (i.e., subjects were allowed to work at their own speed).

Scoring the TSBI - The TSBI contains 32 items consisting of declarative statements for which there are five response alternatives with scores ranging from 0 to 4 in value. Thus, a maximum high self-esteem score would be 128. The mean and standard deviation for the group was cumputed and a cut-off of plus or minus one standard deviation was used to determine high and low self-esteem subjects.

Scoring the SEI - Coopersmith's SEI consists of an eight-item Lie Scale and a 50-item forced-choice questionnaire with "Like me" and "Unlike me" as possible choices. If the subject failed to follow directions correctly, their SEI score was eliminated from further analysis. Each positive statement was assigned a value of one, thus making 50 a maximum high self-esteem score.

For purpose of further DAP testing, TSBI self-esteem scores were used. Following determination of level of self-esteem (high or low),

subjects were randomly assigned to either individual or group conditions for administration of the DAP Test. Administration of the DAP Test for all subjects took place in a classroom with a one-way mirror through which the examiner could observe the subject(s).

To investigate the peer pressure hypothesis, subjects were tested: (1) in groups (ranging from three to twelve in number) seated at small tables formed into a circle, or (2) individually (i.e., the subject was alone in the testing room and was seated at one of the tables).

For DAP testing all subjects were given (face down) individual packets consisting of the three sheets of paper labeled MAN, WOMAN, and MYSELF. The three sheets were stapled together and were arranged in random order both within and between subjects. The subjects were then given the following instructions:

> I have given you three sheets of paper stapled together. On one sheet of paper is the word MAN, on another, WOMAN, and on another, MYSELF. I want you to draw the picture that should go on each page. For example, if your first sheet has MYSELF printed at the top, then you are to draw a picture of yourself. Draw each picture as it looks to you. When you are drawing, do not draw stick figures or profiles (examiner demonstrates a profile). Draw the people as if they are looking straight at you. Remember to draw the whole person. When you have completed the first drawing, go on to the next until you have finished all three drawings. When you have finished all drawings, please put your paper and pencil on the desk by the blackboard. You have all the time you need. Are there any questions?

The examiner then left the room to observe the subjects through the one-way mirror. No time limits were imposed (i.e., subjects worked at their own speed). If subjects seemed hesitant to complete the drawings or complained about their lack of artistic ability, they were encouraged by comments such as "just do the best you can." Time needed to complete

the drawings ranged from 10 minutes to 1½ hours.

Scoring the DAP - Using an 8½" x 11½" centimeter grid square, the three figures drawn were scored on three indicators as follows:

(1) Body height: This factor was defined as the distance between the uppermost point of the drawing and the lowermost point of the drawing as measured in centimeters. Clothing, such as hats or shoes, was included in determining height; however, artifacts such as fishing poles and spears, were excluded.

(2) Body width: This factor was defined as the distance between the extreme right and left points of the drawing as measured in centimeters. Straight vertical lines were extended from the extreme right and left points, and the distance between the resulting parallel lines was measured. Clothing was included in determining width, but artifacts such as handbags and briefcases, were not included.

(3) Area: This measurement (square centimeters) was obtained by multiplying body height by body width.

CHAPTER III

RESULTS

Analyses of variance were performed on the height, width, and height x width DAP data respectively for the group versus individual administration conditions. The results of the analyses for the group-administration condition yielded significance only for the high - low self-esteem by figure interaction, F (2,28) = 3.37, $p < .05$. These analyses are summarized in Tables 1-3. This interaction was further investigated by Tukey's procedure which indicated that low self-esteem subjects drew the WOMAN figure significantly larger ($p < .05$) than the high self-esteem subjects drew the corresponding figure.

Similar analyses were performed on the height, width, and height x width DAP data for the individual-administration condition. Analyses of the height data indicated that the high self-esteem subjects drew significantly larger figures than the low self-esteem subjects, F (1,20) = 29.52, $p < .01$. Analyses of the width data indicated that the figure factor was significant, F (2,40) = 3.92, $p < .05$. The significant figure factor was further investigated through the use of Newman-Keuls procedure which indicated that the MAN figure was drawn significantly larger ($p < .05$) than the MYSELF figure. The height x width analysis indicated that the high self-esteem subjects drew significantly larger figures than the low self-esteem subjects, F (1,20) = 7.85, $p < .05$; and that the figure factor was significant, F (2,40) = 3.32, $p < .05$. The significant figure factor was further investigated through the use of Newman-Keuls

procedure which indicated that the MAN figure was drawn significantly larger ($p < .05$) than the MYSELF figure. These analyses are summarized in Tables 4-6.

Additionally, it may be remembered that one purpose of the study was to ascertain the correlation between the Coopersmith SEI and the TSBI. To this extent, two correlation coefficients were calculated. One correlation measured the relationship of the Coopersmith SEI and the TSBI and included all subjects who successfully finished both instruments. The value of this correlation was .62. The second correlation between the two instruments included only those subjects who had two or fewer Lie Scale answers on the Coopersmith SEI. The value of this correlation was .64.

CHAPTER IV

DISCUSSION

As mentioned above, the DAP results of the group-administration condition are supportive of the position taken earlier, that peer pressure may be operative in this type of testing situation to such an extent that differences are obscured. Although there is no clear-cut reason for the finding that low self-esteem subjects drew the WOMAN figure significantly larger than did the high self-esteem subjects, this, most likely, could also be attributable to peer pressure.

On the other hand, a significant, positive relationship between level of self-esteem and size of drawing was obtained under the individual-administration condition. These results would lend support to Machover's (1949) contention that the size of the figure drawn reflects level of self-esteem (i.e., large figures suggest high self-esteem, whereas small figures suggest low self-esteem). These findings are consistent with those reported by Ludwig (1969), Lehner and Gunderson (1953), Gray and Pepitone (1964), Koppitz (1966), and Lewinsohn (1964). Since the support for the "size" hypothesis was obtained only under the individual administration condition, one might conclude that Hollings' (1975) contention that significantly more significant results are obtained by studies utilizing individual administration is defensible.

Concerning the finding that subjects in the individual-administration condition drew the MAN figure significantly larger on two occasions, one might speculate that in the past, the role of the male in society has

been a dominant one. Despite the current women's liberation movement, it may be that many still view man in this position and that this is reflected via the significantly larger drawings of the MAN figure. On the other hand, it may be that the subjects chose to draw the MAN figure larger because men are, in fact, larger!

At this point it is important to note that this study, unlike others investigating the relationship between level of self-esteem and size of human figure drawings, employed normal adult subjects. In past research, this subject pool has not been investigated very thoroughly. However, the results of the present study suggest that this subject group has much to offer. The development of the TSBI specifically for use with adults and the possibility of eliminating the overlay of emotional contamination that may exist in psychotic, neurotic, or non-normal subjects would appear to be supportive of this viewpoint.

Concerning the relationship of the TSBI and the Coopersmith SEI, it is worthy of note that, despite various comments made by subjects, such as "This is for kids," "You've got to be kidding," "I can't answer some of these," and "This is silly," regarding the Coopersmith SEI, scores on the TSBI and SEI were found to be positively and relatively highly correlated. Helmreich (1974), who helped develop the TSBI, suggests that correlation coefficients above .52 represent a strong relationship. Hence, the finding of a .62 correlation between the two instruments for all subjects who successfully completed both, and a correlation of .64 between the two instruments for only those subjects with two or fewer Lie Scale answers on the SEI would, according to Helmreich (1974), indicate a very strong relationship. However, it should be noted that these

correlations account for only 38% and 41% of the total variance, respectively. Obviously, additional work would appear necessary in this area to account for the remaining variance components. Nonetheless, the TSBI does appear to be a highly useful instrument for use with normal adult subjects.

It is evident that the results of this study support the contention that the relationship between level of self-esteem and size of human figure drawing can be successfully investigated using normal adult subjects. Moreover, it is strongly suggested by the results of this study that further investigations of these variables be conducted in an individual-administration setting.

APPENDIX: TABLES

Table 1. - Summary of Height Measure Analysis of Variance - Group Administration

Source	SS	df	MS	F
Between Subjects	343.00	15		
High vs. Low Self-esteem (A)	40.33	1	40.33	
Subjects Within Groups (error)	302.67	14	21.62	1.87
Within Subjects	192.67	32		
Figure (B)	21.79	2	10.95	2.24
A X B	33.04	2	16.52	3.37*
B X Subjects Within Groups (error)	137.29	28	4.90	

*$p < .05$

Table 2. - Summary of Width Measure Analysis of Variance - Group Administration

Source	SS	df	MS	F
Between Subjects	235.33	15		
High vs. Low Self-esteem (A)	5.33	1	5.33	
Subjects Within Groups (error)	230.00	14	16.43	.33
Within Subjects	110.00	32		
Figure (B)	17.79	2	8.90	2.84
A X B	3.79	2	1.96	.63
B X Subjects Within Groups (error)	87.75	28	3.13	

Table 3. - Summary of Height X Width Measure Analysis of Variance - Group Administration

Source	SS	df	MS	F
Between Subjects	261.66	15		
High vs. Low Self-esteem (A)	157.69	1	157.69	.04
Subjects Within Groups (error)	62,772.29	14	4,483.74	
Within Subjects	89,146.34	32		
Figure (B)	9,821.19	2	4,910.60	1.84
A X B	4,681.31	2	2,340.66	.88
B X Subjects Within Groups (error)	74,643.84	28	2,665.85	

Table 4. - Summary of Height Measure Analysis of Variance - Individual Administration

Source	SS	df	MS	F
Between Subjects	933.26	21		
High vs. Low Self-esteem (A)	552.74	1	552.74	29.52**
Subjects Within Groups (error)	380.52	20	19.03	
Within Subjects	423.00	44		
Figure (B)	28.21	2	14.11	1.47
A X B	11.12	2	5.56	.58
B X Subjects Within Groups (error)	383.67	40	9.59	

**$p < .01$

Table 5. - Summary of Width Measure Analysis of Variance - Individual Administration

Source	SS	df	MS	F
Between Subjects	171.03	21		
High vs. Low Self-esteem (A)	13.64	1	13.64	1.73
Subjects Within Groups (error)	157.39	20	7.87	
Within Subjects	176.00	44		
Figure (B)	28.21	2	14.11	3.92*
A X B	3.91	2	1.95	.54
B X Subjects Within Groups (error)	143.88	40	3.60	

*$p < .05$

Table 6. - Summary of Height X Width Measure Analysis of Variance - Individual Administration

Source	SS	df	MS	F
Between Subjects	125.94	21		
High vs. Low Self-esteem (A)	50,187.88	1	50,187.88	7.85*
Subjects Within Groups (error)	127,938.06	20	6,396.90	
Within Subjects	118,300.00	44		
Figure (B)	16,427.30	2	8,213.65	3.32*
A X B	2,853.30	2	1,426.65	.58
B X Subjects Within Groups (error)	99,019.39	40	2,475.49	

*$p < .05$

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