AN EXPERIMENTAL INVESTIGATION OF THE EFFECTIVENESS OF THE DRAW-A-PERSON TEST IN REFLECTING BEHAVIOR CHANGES OCCURRING IN HYPNOTICALLY-INDUCED INSECURITY AND HOSTILITY

A Thesis

Presented to

the Faculty of the Department of Psychology

University of Houston

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Don Elwin Jones

July 1952

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The present study was undertaken to investigate available evidence concerning the effectiveness of hypnosis as a means of inducing specific states in an individual, and to validate, if possible, specific signs which have been suggested by others as reflecting feelings of hostility or insecurity.

In the literature there is a large amount of experimental evidence that human figure drawings reveal something about the individual's personality structure. There is also experimental evidence that qualified clinical psychologists can infer degrees of adjustment from drawings. Experiments using hypnosis to induce various states or mood changes in individuals have shown the value of the technique in this regard. The literature also deals with suggested measures and signs of hostility and insecurity. These signs are both structural and qualitative.

In an attempt to validate some of these suggested measures, the writer selected those appearing most frequently in the literature and established ways of testing them. The measures considered and tested were location, size, pressure and detail of the hands, eyes, and mouth. Certain predictions were made, based upon the literature,

regarding each of the measures prior to the collection and analysis of data.

In the experimental situation, twenty-four female subjects were used. They were selected from general psychology classes and from offices on the University of Houston campus. To hypnotically create the states of hostility and insecurity a series of suggestions, in paragraph form, were given each subject. The presentation was alternated among the subjects so that an equal number made the hostile, waking and insecure drawings first, second and third.

The drawings were collected and analyzed on the basis of the measures and predictions established earlier. Three qualified raters were asked to select the drawings made in the hostile, waking and insecure states. The drawings were coded and the raters had no previous knowledge of them. These ratings showed the most significant results of all the measures. In all three states--waking, hostile and insecure--a chi-square test revealed significance at the one per cent level of confidence. The only other significant result was the difference in size between the drawings made in the waking state and those made in the insecure state. The insecure drawings were significantly smaller at the one per cent level of confidence.

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

I. INTRODUCTION

Drawings, and in particular drawings by children, have been subjected to psychological research for some time. Beginning with Ebenezer Cooke's[1] investigation in 1885, there has been a rather spasmodic appearance of literature on the use of drawings as a measure of intelligence and more recently as a means of investigating personality. Perhaps the real focus on this area came in 1926 with the publication of Florence Goodenough's[2] book on the measurement of intelligence by drawings, which served to renew interest in the area. Psychologists began asking whether or not drawings--not only of children but of all individuals--might not reveal something of the basic personality structure of the person. This new interest in drawings resulted in the appearance of an increasing amount of literature dealing with the projection of personality characteristics of the person into drawings. In a sense, interest in this area came to a climax in 1949 when Machover[3] published her book dealing with personality projection in the drawing of

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1 Ebenezer Cooke, "Art Teaching and Child Nature", London Journal of Education, 1885.

2 Florence L. Goodenough, Measurement of Intelligence By Drawings, (New York: World Book Company, 1926), 177 pp.

3 Karen Machover, Personality Projection in the Drawing of the Human Figure, (Springfield, Illinois: Charles C. Thomas, 1949), 181 pp.

the human figure. Information about the validity of this method as a projective technique is extremely limited, although some writers have attempted to establish tentative guides for the analysis and interpretation of drawings of the human figure. As yet none of these specific signs or measures has been validated.

The writer has attempted to induce hypnotically the states of insecurity and hostility. This was done to test the hypothesis, assumed by others, that a relationship between specific states and signs exists. It is the writer's opinion that the states induced were functionally equivalent to those arising under more realistic conditions.

II. THE PROBLEM

It is the purpose of this study (1) to investigate available evidence concerning the effectiveness of hypnosis as a means of inducing specific states in an individual, and (2) to validate, if possible, specific signs which have been suggested by others as reflecting feelings of hostility or insecurity.

The first will be handled in a review of the literature and the second through an analysis of human-figure drawings by individuals under the hypnotic suggestion to experience hostility and insecurity.

CHAPTER II

REVIEW OF THE LITERATURE

Literature on the use of drawings as a method of personality investigation. Goodenough recognized the possibility of the use of drawings as a projective technique when she wrote:

> Tentative experimentation suggests the possibility of devising a method of scoring drawings in such a way as to throw light on functional mental disorders, but such a method has not yet been developed.[1]

Arthur England,[2] feeling that in the past all attempts to study fears were done so on a completely structured basis, hypothesized that an unstructured approach would be far more revealing. He selected three groups consisting of normal, retarded, institutionalized and non-delinquent children. He was interested in two things: First, would the non-structured approach be more revealing than the structured? Second, what type of fears would result and in what frequency would they be expressed in the above groups?

In the experimental situation, the children were supplied with 12" x 18" drawing paper and a pencil. They were then instructed to draw what they felt were the most important events of their lives. No prescribed pattern was established for the children in the method of making the drawings.

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[1] Goodenough, op. cit.

[2] Arthur O. England, "Non Structured Approach to the Study of Children's Fears", Journal of Clinical Psychology, 2:364-368, 1946.

A thorough analysis of fear expressions and their frequencies was made. The mentally retarded children had the lowest percentage of fear drawings while the institutionalized non-delinquents expressed fear in over 50 per cent of their drawings, the important thing here being that no mention was made to the children on the subject of expressing pleasant or unpleasant experiences. Of the total experiences drawn for all groups, 27.4 per cent dealt with fear. The most common fear expressed in all groups was falling; sickness and operations were second, and spanking was third.[3]

Kates[4] experimented with the effects of frustration upon emotional expression as revealed in a projective technique. One group of subjects, all adults, made drawings before experiencing failure on a simulated intelligence test and another drawing after the failing experience. The control group, also adults, made drawings but the period of intervening activity between the drawings was emotionally neutral. The drawings were then rated by qualified judges and the results analyzed both on a statistical and interpretive level. Their hypothesis was stated as follows:

> The main hypothesis of this experiment is that behavior in failure may show (1) a general reduction in personal-emotional expression, or (2) an expression of feelings and attitudes opposite to those being experienced by the person. If the hypothesis is correct it may be expected that tendencies toward self-concealment will be reflected in a portrait that is drawn just after

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[3] Ibid., p. 367.

[4] Irwin Kates, "Emotional Expression in Failure: A New Hypothesis", Journal of Abnormal and Social Psychology, 45:329-349, 1950.

failure, inasmuch as the human face is the chief visual medium of emotional expression.[5]

Of the eleven judges making the ratings, five were informed of the experimental conditions under which the drawings were obtained and six were uninformed. Both the informed and the uninformed raters were able to identify the postfailure drawings with greater than chance success. Some of the judges from both groups noted variances in the postfailure drawings. Specifically, they found more distortion and omissions, mask-like appearances, staring expressions, and an appearance of psychological toughness, or invulnerability to ego-injury.

Hats concluded:

> 1. Covering up, or self concealment, insulates the person against the power-field of the thwarter.
> 2. Apathy, or depressed psychological functioning, reduces emotional tension and lessens awareness of the implications of failure. Sensitivity to potentially disruptive stimuli, both internal and external, is reduced.[6]

Literature on the validity and reliability of drawings as a measure of personality. There has not, as yet, been enough research on the Draw-A-Person test to determine its reliability or validity. Although this lack of information should not be construed to mean that the technique at present is valueless, it would be unwise to accept wholeheartedly and without reservation the few hypotheses and suggested

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[5] Ibid., p. 345.

[6] Ibid., p. 348.

criteria thus far laid down. A great deal more experimentation in this area will in all probability be forthcoming. One such experiment on the validity and reliability of the technique was recently accomplished by Albee and Hamlin.[7] This experiment, however, was not designed to test the depth and meaning of the technique but rather analyzed the drawings from the standpoint of adjustment. In this experiment they selected ten cases from the files of a V. A. Mental Hygiene Clinic, representing as wide a range of adjustment as could be achieved from the group. The subjects ranged from a normal subject to an hallucinated, delusional psychotic. The subjects were asked to draw a picture of a man and a woman on a plain sheet of 8½" x 11" paper. The drawings were photocopied, paired, and placed inside a manila folder. Fifteen post-doctoral clinical psychologists served as judges. To determine the reliability of the judgments the judges were split into two groups. The results obtained were stated as follows:

> Reliability. The linear-correlation between the two groups of judges described above was found to be .955. This value is significant at the one per cent level. (With eight degrees of freedom, r must be .765 at the one per cent level.) Applying the Spearman-Brown formula to this correlation raises its value for the whole group of judges to .977.
>
> Validity. The rank-order correlation between the rank-order of the drawings as judged by the fifteen clinical psychologists and the rank of the individuals in adjustment as determined from the case records was found to be .624. This is approximately equivalent to a product-movement r of .640 which for eight degrees of freedom is significant at the five per cent level of confidence. The linear correlations between Wechsler-Bellevue Full Scale I.Q.'s and the rank-adjustments determined by the case-records, and by

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7 George W. Albee, Roy M. Hamlin, "An Investigation of the Reliability and Validity of Judgments of Adjustment Inferred from Drawings", Journal of Clinical Psychology, 5:389-392, 1949.

> the judgments of drawings, were both negligible and insignificant. This would suggest that factors other than intelligence were operative to determine the qualities of the drawings which led to the judgments of adjustment.[8]

From these experiments it becomes clear that qualified clinical psychologists can make reliable judgments of adjustment from the drawings.

Literature on the use of hypnosis in projective techniques. One of the more recent experiments using hypnosis in relation to a projective technique (word association test) was done by Kline and Schneck.[9] In this experiment they used 10 patients from mental hygiene clinics and 10 university students. The test was administered twice to Group I; first, under hypnosis, and a few minutes later, in the waking state. The test was given to Group II in the waking state and repeated a few minutes later, again still in the waking state. No explanations were given either group. The experiment was evaluated on the basis of reaction time disturbances, associative alterations and qualitative association disturbances. The major findings were that there was an increase in the percentage of fast reaction times and a decrease in slow reaction times in the hypnotic group. Also, a marked increase was noted in the incidence of associative alterations in the hypnotic group.

In another experiment, Levine, Grassi and Gerson,[10] using a

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8 Ibid., p. 391.

9 Milton V. Kline, Jerome M. Schneck, "Hypnosis in Relation to the Word Association Test", Journal of General Psychology, 44:129-137, 1951.

10 Kate M. Levine, Joseph R. Grassi, and Martin J. Gerson, "Hypnotically Induced Mood Changes in the Verbal and Graphic Rorschach", Rorschach Research Exchange, 7:130-144, 1943.

26 year old female graduate student in psychology, induced various mood changes under hypnosis, gave the Rorschach test while in each of the moods, and compared the results. The subject was easily hypnotized and her mood could be changed markedly while under hypnotic influence by the use of emotionally vivid suggestions. In all, the subject made responses in eight situations, including the original waking state. Some of the moods induced were depression, elation, hypochondria and apprehension. In the final situation, the subject was given the Rorschach while under hypnosis but without any induced mood. In summarizing the experiment, the authors point out that they had dealt with only one subject who responded to hypnotic suggestion with unusual rapidity and facility and who in her normal living was more susceptible to mood changes and fluctuations than are many individuals. They continue by saying that other subjects might respond very differently to the same suggestions, that it seems evident that the subject's response would be determined by his basic personality, and that the areas of Rorschach distortion might have been predicted with some accuracy from the original record. In spite of this, the authors conclude that the hypnotic state alone was not enough to alter the Rorschach record significantly, although pronounced variations did occur when the subject was induced to undergo affective reactions. The fact that there were striking changes under these artificial conditions indicated to them that the Rorschach is extremely sensitive to changing conditions, attitudes and emotional states in the individual.

Literature on the signs and measures of hostility (aggression) and insecurity (dependency). In 1947, Oppenheim and Goldmeaser[11] spent six weeks in the camps at Cyprus administering and interpreting various tests. One particular camp was known as the "Children's Village", consisting entirely of children up to the age of seventeen. Here, the authors administered an abbreviated test battery to children and made an evaluation of trends noted in the profiles of groups rather than of findings in the individual records. One of the tests in the abbreviated group pattern was the Draw-A-Person test and the results are noted here.

> Fifty-five drawings of men and women (with instructions to make the "whole figure") were made by the subjects individually seen.
>
> There was a striking tendency toward repetition of certain characteristics. The most prevalent tendency was for placement of the figure toward one or another corner of the sheet rather than for centering it. In more than half of all the figures the drawings were of diminished size while in only a few were the pictures larger than expected.
>
> Nine of the pictures were incomplete, with not much more than the head indicated. Although even complete pictures were generally empty and bare of detail, certain details were emphasized or omitted in a considerable number of the total drawings. The head, the hands and the neck were detail most often emphasized. Omissions were even more frequent than emphases; for instance, hands and arms were under-emphasized or omitted in almost one-half of all the drawings. Noticeable also was an unevenness of line quality, with fluctuation of light and dark strokes, differentiating different parts of body.
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> Psychological interpretations of these deviations would lead us to the following suggested explanations:
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> Use of Corners as Field.--These subjects did not seem to have the confidence or nonchalance with which to attack the paper in a

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11 Sadi Oppenheim, and Miriam L. Goldmeaser, "Psychological Report of the Cyprus Psychiatric Mission", Journal of Projective Techniques, 14:263-285, 1950.

bold or easy manner. Instead, there was a hugging of the margins, a need for protection against the "exposed" position of the center which reflects a great degree of insecurity and timidity.

Diminished Size.--This can be understood as projecting feelings of depression, inadequacy, feelings of inferiority and helplessness.

Emphases and Omissions.--Most interesting as representing a general trend was the treatment of the fingers, hands, and arms. If we are to regard the arms and hands as the instruments for coping with the environment, as the means for expressing self-assertion and aggression, we get in our group a disproportionate number who feel completely unable to manipulate the environment and project this sense of impotency through omission of the instruments of aggression. This omission is also subject to the interpretation that they fear their own aggressive impulses and attempt complete suppression. Over-emphasis of the hands occurs much less frequently but is still a noticeable trend and may be thought of as a strong impulse for aggressive release. This over and under-emphasis seems to correspond to the findings in the Rorschach records of general emotional apathy, but with an uncontrolled aggressive quality to the affect that comes to expression.

Line-Quality.--The fluctuation in line quality might be understood as an expression of the conflict between withdrawal tendencies and a desire for contact; also as indecision between suppression and expression of aggression.

In summary, a composite survey of our drawings shows pronounced projection of feelings of depression, inadequacy, impotency and withdrawal trends. In addition, specific conflict with regard to aggressive release is indicated.[12]

Wachner[13] experimented with 35 college freshmen and sophomores between 17 and 19 years of age. His report was extremely extensive and detailed in statistical analysis and in interpretation. His subjects, 35 students from undergraduate classes in psychology, were broken down into experimental groups of five to six students each. These students

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12 Ibid., p. 272.

13 Trude S. Wachner, "Interpretation of Spontaneous Drawings and Paintings", Genetic Psychology Monographs, 33:3-70, 1946.

were seated at easels in such a way that they could not easily observe their neighbor's drawings. The subjects were asked to make a series of "free" drawings or paintings; thus, they had an unlimited selection of materials and themes. They were next asked to draw a series of human faces in the following order: (a) any human face liked; (b) an ugly and a beautiful face; and (c) a self portrait. Finally, they were asked to draw a group of human figures. Their analysis extended throughout such areas as: number of pictures, size, format, relationship of forms to format, distribution, the curve and the edge, detail, continuity, perspective, and movement. Of importance to this study are Wachner's findings on the relationship of the size of the drawing to the individual's adjustment. He states:

> Small sizes are more significant for reduced energy than are large ones for increased energy or aggression. Large and middle sizes are more natural on the average, large sizes particularly for small children. Preference for large sizes is decreasing with increasing age, for older ages preference for large sizes is not so usual. Most of the depressive anxious children prefer small sizes as was shown in the paper on children in latency period mentioned above. On the whole we find in the sequences of normal individuals a variety of different sizes.
>
> Seventy-four per cent of the students in Sarah Lawrence College used a variety of different sizes, 17 per cent used only small sizes throughout their whole sequence, 4 per cent used medium sizes, and 5 per cent showed a marked preference for large sizes so far that in each of their sequences only one picture was small, none medium sized and all others large. One of these students (adjustment rating D) worked in particularly large sizes and used the largest, a really tremendous one, for her self-portrait in over life size. This student was described by her psychology teacher as being particularly aggressive and stubborn, a not too well adjusted individual who gave herself an air of high self-estimation without much justification. She was the only one in the group who used for a decorative design a swastica.

> The other student who used large sizes was also rated only D, but described as not overtly aggressive. Large size is not necessarily indicative of aggression. The ratings of the students with 100 per cent of their sequence small sizes are less good than those of the students who used at least one medium size. Most of them were described as anxious, shy, constricted, or highly self-controlled. A preference of 100 per cent small sizes is rather indicative of constriction, reduced aggression or anxiousness, but not indicative of adjustment or maladjustment. It occurs in the scoring syndromes of the adjusted group as well as in that of the unadjusted with not very high but about equal percentage (12 per cent unadjusted, 15 per cent adjusted). There is no correlation between size and intelligence.[14]

A survey of the literature on signs of hostility and aggression in figure drawing points to certain indicators which appear more frequently than others. Of these probably the most consistent are those concerned with size, location of drawing, pressure, and detail of mouth, eyes, arms, hands and fingers.

Let us consider the question of size. Here, it becomes apparent that there is no single rule to follow in relating hostility or aggression to size of drawing. In fact, none of the above measures, appearing singly would seem to justify a hostility or insecurity diagnosis. This must be based upon a combination of many signs. In regard to the size of the figure, Machover[15] states:

> The very large figure, placed aggressively in the middle of the page is seen most often in the grandiose paranoid individual who possesses a high fantasy self-esteem. This treatment is quite different from the paranoid conditions usually associated with chronic alcoholism, involutional changes, or senility. In these latter cases, the self-esteem is definitely not high and the

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[14] Ibid., p. 63.

[15] Machover, op. cit., p. 90-91.

figure is correspondingly small. The placement of the figure is relatively high on the page, and often gives the impression that the figure is adrift in space. Lack of insight, unjustified optimism, a low level of energy and, basically, a lack of secure footing are some of the psychological correlates of this type of projection.

Tiny figures may be seen in the regressed and vegetative schizophrenics as an expression of low energy level and a shrunken ego. In contrast with the relatively active facial features and positive line of the small figures drawn by the alcoholic, involutional, or senile individual, the drawings of the regressed schizophrenic are marked by simple and even primitive features with no modulation in line treatment. Micrographic figures are also encountered frequently in the deeply repressed and neurotically depressed individual. The figures in these instances are usually more detailed, and may encompass fragmented lines, frequent erasures, significant reinforcements, and considerable shading.

The large figure is not restricted to the overactive manic, the grandiose paranoid, and the fantasy inflated individual. The aggressive psychopath may well give a fairly large figure, but it may be shifted to the left or introversive side, corresponding with the felt inadequacy that is expressed in other drawing indices of insecurity.

In the same area, it is Levy's[16] opinion that:

The relationship between the size of the drawing and the available space may parallel the dynamic relationship between the subject and his environment or between the subject and parent figures. If the drawing is a projection of the self concept then the size is suggestive of the way the subject is responding to the environmental press. If the self-concept figure is small the hypothesis may be formulated that the subject feels small (inadequate) and that he is responding to the demands of the environment with feelings of inferiority. If the figure is large, then the subject is responding to the environmental press with feelings of expansion and aggression. These interpretations may be made only after it is established that the drawings are projections of self-concept.

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16 Sidney Levy, Projective Psychology, Abt. and Bellack, p. 270. New York: Knopf, 1950. 445 pp.

Levy further states:

> More important than absolute size is the impression conveyed by the relationship between the figure and the surrounding space. If the impression of smallness is conveyed in a self-concept drawing, then the interpretation may be made that the subject feels small (inferior) or lost (rejected).[17]

Another tentative measure appearing quite regularly is location. Again, it should be kept in mind that these signs or measures are not definitely established and are suggested only as possibilities. Of this, Machover states:

> If the figure projected on the page is toward the right, it is environment-oriented. Toward the left, it is self-oriented, high up on the page, it is related to optimism, low down on the page, it is related to depression. This rough classification of directional trends has aided clinical analysis. It is probable that the size and placement of a figure are less subject to conscious control and variability than other structural aspects of a drawing. The manic individual cannot help but scatter the figure over the page with an expansive use of paper and an extravagance of energy.[18]

Similarly, Levy speculates that:

> Adults whose figures are placed in the upper half of the page are frequently those who feel unsure of themselves (up in the air). Those whose drawings are on the left side of the page are frequently self-conscious or introverted. Those whose drawings are placed at the bottom of the page seem to be more stable, firmly rooted calm. Occasionally depressed or defeated individuals will do likewise. Those whose figures are carefully centered are usually self-directive, adaptive and self-centered. In my experience, drawings rarely occur on the right side of the page. In the few instances where this has been observed, varying interpretations have been made. The only common factor seemed to be in the direction of negativism or rebelliousness.[19]

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17 *Loc. cit.*

18 Machover, *op. cit.*, p. 89.

19 Levy, *op. cit.*, pp. 275-276.

One suggested measure, that of pressure, offers some excellent possibilities for empirical testing. Wachover offers the following interpretation:

> The stance of a figure may be regarded in a similar light as the stance of a real person. Are the feet wide apart, placed with aplomb in the middle of the page? The assertiveness suggested by such stance is frequently counteracted by insecurity of footing expressed in tiny, pointed, shaded or reinforced feet, by a ground line, or by a hesitant and faint line throughout the drawing.[20]

> The dim line occurs most frequently in the timid, self-effacing, and uncertain individual. The dim line is also frequently fragmented or sketched. Body contours may be uncertain and individual parts of the body blurred in outline. Often this dim line is contrasted with features of aggression contained in the drawing, producing the effect, interpretatively, of strongly aggressive impulses that are inhibited in social contact.[21]

> The pressure, the firmness, and the solidity of the line used in drawing are considered more basically characteristic than some of the other formal features. The line may be faint, dim, or heavy. It may be solid, broken, fragmented, or reinforced. It may be thin or have real dimensional thickness. The line of the contour of the body is essentially the wall between the body and the environment, and often reflects the degree of barrier, vulnerability, sensitivity, or insulation of the subject.[22]

> The faint, "ectoplasmic" line is relatively rare, appearing mainly in withdrawn schizophrenics. The acutely excited schizophrenic or the manic, on the other hand, give very heavy lines as graphic expression of their excess of motor aggression. A fuzzy, broken, or tremulous line with light pressure is often seen in the schizoid alcoholic as distinguished from the heavy line used by the paranoid alcoholic.[23]

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[20] Wachover, op. cit., p. 92.

[21] Ibid., p. 96.

[22] Ibid., p. 93.

[23] Ibid., p. 97.

Levy feels that pressure may be interpreted as follows:

> The stroking may be described with respect to pressure, direction continuity, angularity, rhythm. The pressure of the stroke is usually related to the level of energy. Thus an individual with a great deal of drive and ambition will usually draw firm lines. The individual whose energy level is low because of physical or psychic reasons will draw rather light lines. The cyclothymic, unstable or impulsive individual will show fluctuating pressures.[24]

Along with these structural aspects, there are certain areas of the body which may denote aggression or inadequacy. Of these, probably the most frequently mentioned are the eyes, mouth, arms, hands and fingers. Machover states:

> Ideas of reference may issue out of the fear of how people are reacting to one's own hostility toward them and the eye features centrally in that type of sensitivity. Individuals will sometimes draw a furtive and suspicious eye conveying ideas of reference. We also see the piercing eye in drawings, which appears to have more the function of an aggressive social tool than of esthetic or more comprehensive visual experience.
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> . . . . . .
>
> We see the large, dark, accentuated or menacing eye creating an image of hostility and suspicion projected by the paranoid individual.[25]

> Mouth detailing with teeth showing, in an adult drawing, is considered an index of infantile, oral aggression and is often seen in drawings of simple schizophrenics or flat hysterical types. Children and low grade defectives will give this treatment frequently, but, unlike that treatment in schizophrenics, the oral aggression that is implied is more developmental than regressive in nature. Occasionally, even the tongue is indicated, intensifying the oral concentration on a primitive level.

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[24] Levy, op. cit., p. 281.

[25] Machover, op. cit., p. 48.

. . . . . .

> The concave or orally receptive mouth is frequently encountered in the drawings of infantile, dependent individuals whose dependence is often also manifest in undue emphasis on buttons. Functionally, this type of mouth is primarily passive and is open to receive nourishment. It is an expression of oral dependence usually associated with demanding and parasitic adults. In young children the concave mouth is usually drawn in a front view. From a graphic and developmental standpoint, it is more normal than in adults. At the other extreme, we find the mouth that is represented graphically by a heavy line slash which, in the very act of drawing, communicates aggression. This treatment has often been correctly associated with the verbally aggressive, over-critical, and sometimes sadistic personality. A variation of this line is seen when the individual starts out with considerable pressure, but withdraws from the page rapidly, so that a heavy but brief mouth indication results. Interpretation of this treatment would follow that the impulse toward verbal aggression is strong, but the anticipated rebuff makes the individual withdraw cautiously.[26]

Similarly, Levy feels that:

> The mouth may be portrayed by a straight line, an oval and sometimes with teeth. If teeth are included, the subject may be orally aggressive and sadistic; other characteristics associated with this stage of development should be looked for. If the mouth is indicated by a single line, the individual may be verbally aggressive.[27]

The arms, hands and fingers are considered by the majority of authors to be the real contact areas of the body. Because of this, they have received special attention by those who have attempted to establish hypotheses of specific interpersonal relations. Machover states:

> The speared or talon-like fingers have been seen with paranoid features in drawings to support the suggestion of overt aggression.

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[26] Ibid., p. 44.

[27] Levy, op. cit., p. 270.

The clenched fist, especially with the arm away from the body has occurred chiefly in drawings of adolescent delinquents whose rebelliousness is fairly close to surface behavior. When the clenched fist is pressed tautly towards the body, the significance lies more in the direction of inner and repressed rebellion that finds expression in symptoms rather than behavior. A mitten type of hand and finger development has been associated also with repressed aggression, but it is more evasive and non-committal in character, tending to be associated more with furtive outbursts of aggression than with caustic symptomatology. The hand with the fingers carefully articulated, but hemmed in by a line, cutting off their contact possibilities, is interpreted as another expression of repressed aggression. It is seen in individuals who incline to withdraw from emotional contacts for fear of their aggressive impulses becoming overt.[28]

Ambitious and aggressive individuals with acquisitive dispositions may draw more than five fingers on a hand. This is not uncommon in childrens' drawings. Fingers that are drawn with joints and nails carefully indicated are interpreted as indicating obsessive control of aggression on the part of the subject. Another expression of aggression is seen in the fingers that are formed like a claw, or a mechanical tool. In drawings of individuals preoccupied with masturbation, the index finger or thumb may be given conspicuous or rigid treatment, or the dismemberment (castration) of a significant finger may be shown.[29]

The most commonly omitted feature is the hands, with the feet following as a close second. If the hands are drawn, they may often fade into vagueness or be dimmed out (lack of confidence in social contact, in productivity or both). They may be shaded vigorously--suggesting guilt in regard to aggressive impulses or masturbatory activity.[30]

Levy offers the opinion:

The arms and hands are the contact and manipulatory organs of the body. If the hands are hidden, the subject is expressing contact difficulties or feelings of guilt for manipulatory

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28 Machover, op. cit., p. 64.

29 Ibid., p. 65.

30 Ibid., pp. 60-61.

> activities (masturbation). If the hands are shown but are exaggerated in size, this may be interpreted as compensatory behavior for feelings of manipulatory insufficiency, contact difficulties, or inadequacy. If the hands have considerable shading, then the subject may be expressing anxiety with respect to manipulation or contact activities. If the arms are pressed close to the body, the subject may be expressing passive or defensive feelings. If the arms are extended away from the body, the subject may be expressing externally directed aggressive needs. If fingers, fingernails and joints are carefully sketched, the subject is either compulsive or is expressing difficulties with relation to body concept (as in early schizophrenia). Closed fists suggest repressed aggression.[51]

In summary, then, these six areas--size, location, pressure, eyes, mouth, hands, arms and fingers--are suggested as indicators of hostility and insecurity. It is the intent of the writer to investigate the validity of these suggested signs by analyzing the way in which they have been drawn and the frequency of their occurrence in the drawings of subjects who have been subjected to hypnotically-induced states of hostility and insecurity.

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51 Levy, op. cit., p. 279.

CHAPTER III

MEASURES AND PREDICTIONS

I. MEASURES

A review of the literature indicates that some investigators feel that there are certain signs which should be manifested in the drawings of people in either a hostile or insecure state. This literature has tended to emphasize location, size, pressure, and the detail of eyes, mouth, arms, hands and fingers as effective guides in indicating both hostility and insecurity.

The measures outlined below are based upon the relationships between certain aspects of figure-drawing and personality traits, as inferred by the investigators cited above.

Location. To obtain this measure, a line will be drawn from the top of the head straight through the body to a line drawn horizontal with the lowest part of the figure drawn. This vertical line will be marked in the center and a circle drawn at this point. The circle will be blacked out in order to be visible through a thin sheet of paper. Another piece of paper will be divided equally into eleven spaces from right to left and from bottom to top. This sheet will be placed over the drawing and the place where the circle shows through will be the location measure. For example, an exact centering of the figure on the page would give a reading of 6-6; that is, the center of the figure

would be six spaces from either side of the paper and six spaces from either top or bottom.

Size. A measure of size will be obtained by drawing a line from the top of the head straight through the body to a line drawn horizontal to the lowest part of the figure drawn. Another line will be drawn through the figure at its widest part; this will not include the arms or hands outstretched. These two lines will be measured in inches and the horizontal times the vertical will give an area of square inches. This measure will be taken for all three drawings and the results will be totaled and averaged.

Pressure. There will be three measures of pressure. To obtain these measures seven sheets of 20-weight paper will be used. A black carbon will be inserted between these sheets and all sheets will then be stapled together. The pressure will be indicated by the appearance of marks on sheets below the top one. The sheet on which any marking is finally visible will be used as an indicator of general pressure (GP). The sheet on which any sign of the hands is finally visible will be the hand pressure (HP) measure. The third will be an eye pressure (EP) measure obtained in the same way as the hand pressure. There could conceivably be identical pressures for all three measures.

Mouth, Eyes, Arms, Hands and Fingers. These are all qualitative measures and since it would be practically impossible to establish a statistical measure for each deviation in these areas they will be handled by ratings. Three qualified raters, having extensive experience

with the Draw-A-Person test, will be used. The drawings will be coded and given to the raters, with a sheet on which to place their interpretation. They will be asked to select the insecure drawing, the waking drawing, and the hostile drawing. These ratings will be tabulated in regard to number correctly identified. A statistical analysis will be made from this, showing with what amount of accuracy the raters were able to select the drawings made in the specific states. It is assumed that the raters will, to a great extent, rely on the qualitative measures--that is, the mouth, eyes, arms, hands and fingers--in making their decisions.

II. PREDICTIONS

It is necessary to make some predictions concerning these measures prior to the collection and analysis of data. These predictions cover the signs in general and are not meant to be detailed or specific. The following predictions are made.

Location. Since location is considered of primary importance in relation to insecurity, it is predicted that there will be measurable differences between the location of drawings made in this state and those made in the waking state.

Size. The drawings made in the state of hostility will be significantly larger than those made in a waking state. Those made in an insecure state will be significantly smaller.

Pressure. Drawings made in the hostility state will show

significantly more pressure than those made in the waking drawing. The insecure figures will show significantly less pressure than those made in the normal state.

Mouth, Eyes, Arms, Hands and Fingers. Since these measures will be based upon the rater's ability to choose the correct drawing, it is predicted that raters will be able to identify correctly the drawings of individuals in the waking, insecure, and hostile states in a number of cases significantly higher than chance.

CHAPTER IV

METHODS AND RESULTS

I. PROCEDURE

Up to the present time, to the writer's knowledge, there have been no attempts to validate the Draw-A-Person test by using hypnosis. Since this was an initial attempt it will necessarily have embodied in it certain subjective evaluations relative to insecurity, hostility and depth of the trance. The method used to create these states was a series of suggestions, in paragraph form (see Appendix), given to the subject while under hypnosis. To insure that the trance was at least at a certain level, all subjects were required to meet one or more of the following criteria after their eyes were opened: first, automatic movements; second, catalepsy; and third, positive or negative hallucinations. Twenty-four student subjects, all female, were selected from general psychology classes and from offices on the University of Houston campus. They ranged in class standing from freshman to graduate. Those chosen were picked for their ability to respond easily and quickly to suggestions made by the experimenter. A few subjects, when seen individually, were unable to proceed into a sufficiently deep trance and were dismissed. The subjects were divided into three groups, and the drawings alternated to eliminate the presentation variable, (see Figure 1). The subjects were allowed a five

ORDER OF PRESENTATION	GROUP A	GROUP B	GROUP C
First	Walking	Hostility	Insecurity
Second	Insecurity	Walking	Hostility
Third	Hostility	Insecurity	Walking

FIGURE 1

ALTERNATE ORDER OF PRESENTATION

OF THE EXPERIMENTAL SITUATIONS

minute rest period between drawings. Some of the subjects were capable of doing all three drawings in one session. Others required up to as many as five meetings to reach the proper depth and complete all three drawings. They were given post-hypnotic suggestions for amnesia after each trance. The meetings were held as close together as possible, generally never more than a week apart. The subject, in the waking state, was simply asked to draw a person. No suggestion was given as to sex or how complete the figure was to be. In the hostility and insecurity states, after the reading of the paragraph, they were again asked to draw a person with no further instructions. Although there were sometimes several questions asked by the subjects in a waking state, there was never a question asked in the hypnotic state. No questions concerning the task of drawing figures were answered during the experimental situation. The drawings were collected and marked by the experimenter. They were also coded so that when the clinicians were asked to rate them they would have no basis for the ratings other than their own judgment. After coding they were kept in a separate folder until all were completed and ready for analysis.

II. COLLECTION AND ANALYSIS OF DATA

The data were collected and analyzed on the basis of the measures and predictions established in the preceding chapter. Size, location and pressure data were statistically evaluated by computing t values. The distributions of the clinicians' ratings were subjected to a chi-square test.

III. RESULTS

It was predicted that the insecure drawing would be farther from the center of the page than the waking drawing. The t value between the insecure drawing and the waking drawing from the right side of the page to the left side is .69. From top to bottom it is 1.24. Neither of these differences is significant (see Table I). In the same order, the hostility and waking scores were .44 and 1.06. Again, neither is significant.

The predictions on size were that the insecure drawing would be smaller than the one made in the waking state and the hostile drawing larger. The t value between the hostile and waking drawing was 1.25 (see Table II), and between the waking and insecure it was 3.00. The first is not significant; the second is significant at the one per cent level of confidence. (With 25 degrees of freedom, a t value of 2.61 is significant at the .01 level.)

The pressure predictions were that there would be more pressure in the hostility state than in the waking state and less pressure in the insecure state than in the waking state. The t values of all three pressure measures—general, hand, and eye—were not significant (see Table III).

The ability of the raters to correctly select the drawings made in the three states showed statistically significant results. The chi-square measure indicates that to be significant at the one per cent level of confidence, with four degrees of freedom, a score of 13.277 is

TABLE I

DISTRIBUTION AND SIGNIFICANCE* VALUES FOR DIFFERENCES IN LOCATION OF DRAWINGS IN WAKING, INSECURE AND HOSTILE STATES (N=24)

DIFFERENCES BETWEEN HOSTILE AND WAKING DRAWINGS

	Right to Left		Bottom to Top	
	Hostile	Waking	Hostile	Waking
Total	158	155	142	151
Mean	6.58	6.46	5.92	6.29
σ	1.04	.76	1.19	1.16
σ_M	.22	.16	.25	.24
t Value	.44		1.06	

DIFFERENCES BETWEEN INSECURE AND WAKING DRAWINGS

	Right to Left		Bottom to Top	
	Insecure	Waking	Insecure	Waking
Total	159	155	141	151
Mean	6.63	6.46	5.88	6.29
σ	.93	.76	1.05	1.16
σ_M	.20	.16	.22	.24
t Value	.65		1.24	

*No significant difference.

TABLE II

DISTRIBUTION AND SIGNIFICANCE* VALUES FOR DIFFERENCES IN SIZE OF DRAWINGS IN WAKING, INSECURE AND HOSTILE STATES (N=24)

	Hostility	Insecurity	Waking
TOTAL	335	255	417
MEAN	13.96	10.54	17.37
σ	9.16	6.10	11.38
σ_M	1.91	1.27	2.37

* Insecurity and Waking: r = .34 t = 3.00 Significant at .01 level
Hostility and Waking r = .20 t = 1.25 Not significant

TABLE III

DISTRIBUTION AND SIGNIFICANCE* VALUES FOR DIFFERENCES IN GENERAL, HAND AND EYE PRESSURE OF DRAWINGS IN WAKING, INSECURE AND HOSTILE STATES (N=24)

	HOSTILITY			INSECURITY			WAKING		
	GP	HP	EP	GP	HP	EP	GP	HP	EP
TOTAL	105	71	80	86	57	69	101	66	71
MEAN	4.42	2.96	3.34	3.59	2.38	2.71	4.21	2.84	2.96
σ	1.26	1.06	1.57	1.32	1.30	1.17	1.04	1.55	1.17
σ_M	.26	.39	.33	.27	.31	.24	.22	.32	.24

HOSTILITY AND WAKING	
GENERAL PRESSURE	t = .60
HAND PRESSURE	t = .24
EYE PRESSURE	t = .93

INSECURITY AND WAKING	
GENERAL PRESSURE	t = 1.77
HAND PRESSURE	t = 1.02
EYE PRESSURE	t = .74

* No significant differences.

needed. The hostility measure showed a score of 45.75, the insecurity 30.50, and the mixing 55.00 (see Table IV). All these differences are significant at the .01 level.

TABLE IV

DISTRIBUTION AND SIGNIFICANCE VALUES FOR DIFFERENCES IN RATERS' SELECTIONS OF WALKING, INSECURE AND HOSTILE DRAWINGS (N=24)

HOSTILITY

	Rater 1	Rater 2	Rater 3
Hostility	(8) 21	(8) 14	(8) 15
Insecurity	(8) 1	(8) 7	(8) 8
Walking	(8) 2	(8) 3	(8) 5

χ^2 = 45.75 Significant at .01 level.

INSECURITY

	Rater 1	Rater 2	Rater 3
Insecurity	(8) 18	(8) 12	(8) 14
Hostility	(8) 5	(8) 8	(8) 7
Walking	(8) 3	(8) 4	(8) 3

χ^2 = 30.50 Significant at .01 level.

WALKING

	Rater 1	Rater 2	Rater 3
Walking	(8) 19	(8) 17	(8) 16
Hostility	(8) 0	(8) 2	(8) 2
Insecurity	(8) 5	(8) 5	(8) 6

χ^2 = 53.00 Significant at .01 level.

CHAPTER V

DISCUSSION, SUMMARY AND CONCLUSIONS

I. DISCUSSION

It should be pointed out that negative statistical results may indicate one of two things. First; that in the areas of negative results there may not be any relationship between the measures and the states. Second; that the specific states were not hypnotically induced. Since the raters were able to significantly select the proper drawings there is some argument that the first may be true rather than the second. To test this hypothesis, the raters were asked, after the results of their selections were tabulated, what guide or guides they used in choosing between the drawings. The answers, in general, were that they used a number of signs and measures and it was the interpretation of these which made them select as they did. Some of the signs and measures that the raters used are those which have shown negative results. This would indicate that perhaps a more sensitive and discriminating system of measure would reveal significant differences in these areas. In any event, although some of these measures do not appear to be independently significant, when they are combined into a whole they may be.

II. SUMMARY

Some writers in the field of projective psychology have

established tentative measures and signs which they believe appear in the Draw-A-Person test. The present experiment was undertaken to determine the validity of some of these suggested signs and measures as found in hypnotically induced states of insecurity and hostility.

Twenty-four female subjects were selected and placed in hypnotically induced states of insecurity and hostility. While in these states they were asked to make a drawing of the human figure. They were also asked to draw a human figure while in a normal waking state. The drawings were made in alternate order. After the drawings were completed they were collected and analyzed in regard to location, size, pressure and qualitative differences. Three clinicians were asked to select the drawings made in each of the three states. The statistical analysis was handled by χ^2 table comparisons and a chi-square measure. The most significant result was the ability of the raters to select the drawings made in the specific states. The only other significant result was the difference in size in the drawings made in the insecure state and those made in the waking state. The insecure drawing was significantly smaller. The pressure and location results were not significant.

III. CONCLUSIONS

Since the raters were able to select the drawings made in each specific state with such a high degree of accuracy, it follows that there should be some way of establishing concrete measures. Although no

significant results were obtained in regard to location and pressure there was a trend shown in the totals of the pressure scores. The size measure between the making and insecure drawing was also significant. Since the study has revealed the possibility of establishing definite measures, a need for further research is indicated. Certain methods might be devised to determine how people under hypnosis interpret suggestions of insecurity or hostility. A subject could also be placed in several different suggested states and administered not only the Draw-A-Person but another, already validated, projective test. A comparison of the results of the two tests should be revealing.

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APPENDIX

PARAGRAPHS ON HOSTILITY AND INSECURITY

Hostility. You are away at college and living in the dormitory. Unfortunately you were forced into rooming with a girl whom you dislike intensely. She talks about you behind your back and says all sorts of mean and untrue things. She belittles you in front of your friends and lies about you to your sorority sisters. She is always taking your clothes and wearing them without even asking you, but if you ask to borrow something of hers she says no. She will never help clean up the room and leaves it messy and untidy all the time; then you have to do all the work yourself. You have become very hostile towards her and you just don't know how you can take any more of it. Now you have heard from one of your friends that she is going to try and take your boyfriend away from you. This is the last straw. This has made your dislike and hostility towards her so great that you are just going to do something about it. Now you are in a psychological situation about to make a drawing; even though you have all this hostility and bitterness on your mind you will be able to carry on.

Insecurity. A few years ago your mother died and left you and your father alone. It was hard going for awhile but somehow you managed and before long you and your father had adjusted completely and were very happy. Now just recently your father has married again. This woman was previously married and has a daughter about your age. Since your father has remarried he has been particularly attentive to

your step-mother and it seems as though he has almost forgotten you entirely. What is worse he is paying more attention to his step-daughter than to you. You feel very insecure and inadequate in this situation. You cannot understand why your father does not love you like he used to and you don't know how to cope with the situation. Your father no longer takes you places and buys you clothes like he used to. In fact it seems he just doesn't have time for you anymore. You have reached the point where you don't know what to do; you don't know how to win back your father's love and are completely confused and bewildered. You are now in a psychological situation about to make a drawing and even though you do have all these problems on your mind and even though you feel terribly insecure you will be able to carry on.

TABLE V

INDIVIDUAL SCORES AND MEANS OF LOCATION FROM RIGHT TO LEFT AND BOTTOM TO TOP FOR WARMTH, INSECURE AND HOSTILE DRAWINGS

	Hostility		Insecurity		Warmth	
Subject	R to L	B to T	R to L	B to T	R to L	B to T
1	7	9	7	9	6	9
2	6	5	7	5	6	5
3	6	5	6	4	6	6
4	7	5	8	6	6	6
5	6	6	6	6	6	6
6	7	5	6	6	6	5
7	6	6	7	6	7	5
8	7	5	7	6	7	5
9	6	8	6	6	6	5
10	6	7	6	7	6	7
11	7	5	6	6	6	6
12	6	7	6	7	6	7
13	6	7	6	6	6	7
14	6	6	5	6	7	6
15	7	6	7	6	8	8
16	6	6	7	5	7	6
17	9	4	10	4	9	9
18	4	5	6	4	6	5
19	9	4	7	6	7	7
20	8	7	6	6	6	6
21	6	6	7	7	6	6
22	7	7	7	6	6	7
23	7	6	6	6	7	6
24	6	5	7	5	6	6
Total	158	142	159	141	155	151
Mean	6.58	5.92	6.63	5.88	6.46	6.29

TABLE VI

INDIVIDUAL SCORES AND MEANS OF SIZES OF THE DRAWINGS MADE IN MAKING, INSECURE AND HOSTILE STATES

Subject	Hostile	Insecure	Making
1	2	2	5
2	4	10	19
3	15	14	12
4	7	4	10
5	12	8	15
6	39	25	15
7	19	15	8
8	8	7	9
9	6	4	33
10	10	2	7
11	21	17	16
12	15	9	25
13	35	13	21
14	7	5	15
15	6	8	9
16	25	14	19
17	6	2	3
18	12	17	30
19	10	10	9
20	13	10	19
21	13	17	19
22	9	17	15
23	17	7	9
24	23	22	43
TOTAL	339	255	417
MEAN	13.96	10.54	17.37

TABLE VII

INDIVIDUAL SCORES OF GENERAL, HAND AND EYE PRESSURE IN THE WAKING, HOSTILE AND INSECURE STATES

Subject	Hostility			Insecurity			Waking		
	GP	HP	EP	GP	HP	EP	GP	HP	EP
1	4	0	4	3	0	3	3	3	3
2	5	5	5	4	3	5	5	1	1
3	4	5	5	5	1	3	4	3	5
4	5	4	5	5	4	4	4	3	3
5	4	3	3	3	1	3	3	2	2
6	4	5	5	2	2	2	6	4	4
7	5	4	3	3	3	3	4	4	3
8	5	5	5	4	3	3	4	4	4
9	4	0	3	3	0	3	6	4	4
10	7	7	7	5	5	5	5	4	3
11	4	4	3	4	3	3	4	4	4
12	3	2	3	4	3	3	3	3	3
13	3	3	1	2	0	1	4	0	3
14	3	2	2	2	1	1	4	2	3
15	3	3	0	4	3	3	4	0	0
16	4	3	3	4	2	3	3	3	3
17	6	3	3	4	4	3	4	4	4
18	3	2	2	4	3	2	3	3	3
19	3	2	2	2	1	1	3	2	2
20	3	0	4	3	2	1	6	1	1
21	3	3	3	4	3	2	3	2	2
22	6	3	3	4	2	2	6	3	3
23	7	7	7	6	6	6	3	3	3
24	6	0	3	2	2	2	3	0	3
Total	106	71	80	86	57	65	101	68	71
Mean	4.42	2.96	3.34	3.59	2.38	2.71	4.21	2.84	2.96