CHAPTER II

REVIEW OF LITERATURE
Research can play an important role in developing more objective and time-saving scoring methods in projective drawing techniques as they are easy to administer and does not require any complex training. They have a promising future but have not yet overcome the insecurity germinated from the difference of opinion between the clinicians and the researchers in handling the projective data. Clinicians feel that the scientific techniques destroy the configuration of the projective data which has a great meaning for them, whereas researchers feel that many clinicians are dreamers who have allowed their concepts to overwhelm them and have generalized their findings impulsively and recklessly on the basis of their concepts.

Heidgerd (1967) rightly feels that "Clinicians and researchers have much to offer each other if projectives are to serve their purpose effectively and efficiently". To bridge the gap between the clinical and the experimental approach, the areas in which the gap exists have to be viewed neutrally. The studies have been reviewed under the four main headings:

I Studies Dealing With Personality Analysis Through Projective Drawings.
II Group Differentiation Through Projective Drawings.
III Testing Reliability of Projective Drawing.
IV Determining Validity of Projective Drawings.

Personality analysis with the help of drawings was initiated by clinicians who were treating their patients.
Following are a few relevant studies which dealt with personality analysis with the help of projective drawings.

Bertschinger (1911) psycho-analytically analysed 100 drawings made by one of his female hysterical patient during one year of psychoanalytical treatment. He studied various conflicts through her drawings which included animals etc.

Pfister (1917) while treating a 18 years old neurotic boy, emphasized the psychoanalytical treatment of the drawings which reflected what he termed as patient's "complexes" through association of the drawings. He further stressed the importance of studying the experiences and the activities of the patient during drawing task. He described "manifest" and "latent" content in the drawings like that of dreams.

Kempf (1920) gave psychoanalytical interpretation of the drawings made by his patients. He asserted that because of released inhibitions in insane, the unconscious mind expresses itself through the language of symbols. Kempf found "latent content" of the insane drawing as erotic in nature.

Burr (1916) analysed the drawings of dementia-praecox and manic-depressive patients and tried to give psychoanalytical interpretation. He was of the opinion that all insane drawings are symbolic; reflect emotional complexes and are generally erotic in nature.
Lewis (1928) analysed the drawings of psychotics and neurotics psychoanalytically and compared them with dreams in revealing what he called as "unconscious mechanism". He segregated the drawings into two components "manifest" and "latent" like that of dreams. He used free association to uncover the "latent" part of the drawing. Lewis described this part of the drawing in terms of psychoanalytic concepts such as "death wish", autoerotic, masochistic and sadistic tendencies. Further he concluded that drawing material serves in the "process of objectification and in the socialization of conflicts" and helps to reveal "collective or archaic unconscious".

Heyer (1933) while giving psychoanalytic treatment to his patients, asked his patients to draw while diverting their attention. He analysed thirty-seven drawings and labelled these drawings as the "pictures drawn by the subject's unconscious mind".

Pfister (1934) in order to test his psychoanalytical assumptions, gave standard material to 431 insane and 100 controls and asked them to draw eight different objects. He analysed each drawing keeping in view the time taken to complete the task, use of colour, pressure, movement, consistency and uniformity of the drawing contents.

Kris (1936) psychoanalytically analysed the drawings made by insane. He explained the insane art as unintelligent because of disturbed "Ego functions" whereas in normal art "ego" retains its control over "id".
Tartegg (1939) studied various aspects of personality such as emotion, imagination, intellect and volition (will power) of children and adults (examined in connection with the problems of education, vocation and military screening) through Wartegg Drawing Completion Test.

Hellersberg (1945) measured individual's relation to reality in American culture through Horn-Hellersberg Drawing Completion Test. She analysed each drawing keeping in view the origin of the content drawn, time and behaviour of the subject during the test. She tested the reliability of the criterion by test-retest method.

Buck (1948) while working on Goodenough Intelligence Test, developed House-Tree and Person Test (H-T-P Test) to study individual's unconscious conflicts. He devised qualitative and quantitative scoring method which included post drawing interrogation (P-D-I) after the subject finishes the drawing.

Machover (1949) while working on Goodenough Intelligence Test, developed Draw-A-Person Test in an effort to understand the individual's dynamics of personality. She analysed all parts of human figure in relation to their symbolic meaning and other drawing aspects such as shading, use of eraser, quality of the lines, omission and distortion of any part. Frequent use of erasure was found to be an expression of anxiety and dis-satisfaction, which are main symbols of psychopaths and obsessive-compulsives with neurotic conflicts.
These patients make frequent use of eraser in an effort to improve and alter their drawings with the result that the form quality of the drawing is deteriorated. Machover suggested that shading, too, is an expression of anxiety. The aggressive effort of the subject was considered as an effort to conceal and discharge aggression in the form of shading. Whereas in young children shading is taken as a repetitive fun. Machover asserted that the lines of human figure drawing represent the wall between the body and the environment. The quality of the lines (dim, light thick and heavy) indicate the degree of sensitivity of a person, chronic schizophrenics and paranoiacs who suffer from depersonalization fear or from acute conflict in regard to the withdrawal trends, give thick and heavy lines whereas dim lines are drawn by fearful and uncertain individuals. Faded lines with reinforcement are drawn by individuals with hysterical trends. Ambivalent conflicts are shown by the mixture of dim and heavy lines.

Machover (1953) analysed the figure drawings on Draw-A-Person Test of female adolescents and suggested that anxiety, aggression, turmoil and tense conflicts between self-expression and restrain could be studied with the help of figure drawings.

Rosenberg (1948) modified Draw-A-Person Test by making a carbon copy of the original drawing which the subject makes, then asking him to make alteration in one copy. Rosenberg compared the original copy with the altered drawing and stressed that the various conflicts of personality could be studied which form various symptoms.
Levy (1950) analysed 5500 Figure Drawings collected from students and patients (with psychological problems) along with the sample of the behaviour manifested by each one of them during the drawing task, in an effort to understand the dynamics of human personality. He analysed each drawing in relation to sequence, size, location, aspect, movement, omission, distortion, clothing, pressure, continuity, rhythm, direction, motor movements, amount of details, preciseness of form, balance and shading. He stressed the psycho-diagnostic importance of each drawing variable. He felt that in spite of the low validity of drawing techniques, it plays a significant role in the clinical diagnosis. However, he suggested that the drawing tests should be in a battery to overcome this problem.

Ringet (1952) investigated various aspects of personality such as Emotions, (open and seclusive), Imagination, (combinative and creative), Intellect (Practical and Speculative) and Activity (dynamic and controlled) through Wartegg Drawing Completion Test. He defined the objectives and the gestalt qualities of each stimulus in each test blank. Kinget administered Wartegg Drawing Completion Test to normal adults (187 males and 196 females) and analysed the drawing taking into consideration the stimulus drawing relations, content of the drawings and execution of the content drawn i.e. quality of the line, size of the figure and shading etc.

Hulse (1952) studied childhood conflicts through Draw-A-Family Technique. He asked his subject to draw the members of family and describe the experience with each one of them.
Dosa (1960) studied various aspects of personality such as Imagination and Emotional Maturity through Hörn-Hellersberg Test. He determined the parallel form reliability and intra-judge reliability. The validity was determined through Rorschach Test.

Levy (1967) analysed nine human drawings of a paranoid schizophrenic patient during five years of psychoanalytic treatment. The drawings reflected various personality conflicts, fantasies and ego defense which led to the formation of symptoms. The drawings clearly indicated changes as the prognosis advanced.

Levy and Levy (1967) investigated the personality of 1042 randomly selected adult males, 1026 randomly selected adult females, 1029 male prisoners, 1080 male institutionalized psychotics, 1070 female institutionalized psychotics, 1070 male adolescents and 1079 female adolescents through Levy Animal-Drawing Story Technique (LADS). They instructed their subjects to draw any animal and then write a story about the animal drawn. They analysed the each animal drawing psycho-analytically deriving symbolic meaning of the each animal drawn.

**SUMMARY**

Personality analysis through drawing was initiated in the beginning of the twentieth century by those clinicians who were treating their patients psychoanalytically. Among those were Bestschinger (1911) who studied the personality of a single hysterical patient through many drawings made by her. Pfister (1917) studied many "complexes", revealed through the drawings of a single neurotic patient. He treated those
drawings like that of dreams and found latent and manifest parts. Burr (1916) found symbolism in the insane drawings which were erotic in nature. Kompp (1920) explained symbols in the drawings in terms of inhibition which he thought "does not remain in insane and their unconscious expresses itself in symbols" and found latent part as erotic in nature. Kris (1936) explained the insane drawings in terms of lack of "ego" control over "Id". Lewis (1928) used free association to uncover the latent part of the drawing. Meyer (1933) asked his patients to draw while diverting their attention to know the deeper conflicts of personality. Hammer (1967) while analysing the doodles, explained that the diverted attention weakens the intensity of the defense-mechanisms and facilitates the objectification of conflicts. Pfister (1934) studied the personality of 431 insane and 100 controls in relation to behaviour manifested during the drawing task, use of colour, movement, consistency and uniformity. Wartegg (1939) studied basic functions such as emotions, volition, imagination and intellect in the personality of normals. Kinget (1952) validated Wartegg's assumptions and investigated the type of emotions (open or exclusive), imagination (combinative or creative) and activity (dynamic or controlled) through Wartegg Drawing Completion Test. Hellersberg (1945) measured individual's relation to reality in American culture on Horn-Hellersberg Test. Dosajh (1960) segregated various drawing variables and investigated emotional maturity and imagination through Horn-Hellersberg Test. Personality investigation through Draw-a-Person Test and House Tree and a Person Test was started in United States around
1948 when Machover (1949) while working on an intelligence test, developed Draw-A-Person Test and gave a body image hypothesis. On the other hand Buck (1950) out of his experience with intelligence scale, developed House-Tree and Person Test. He developed qualitative and quantitative scoring methods to investigate the personality. Machover (1949) gave psychological meaning to all the parts of the figure drawing on D.A.P. Test. Rosenberg (1949) modified D.A.P. Test by making a carbon copy of the figure drawn, then asking the subject to make alteration in the carbon copy to study the deeper conflicts. Levy (1950) collected many thousand figure drawings from students and patients and investigated their personality through various drawing variables. In another study, Levy (1967) investigated the personality of a schizo-phrenic patient during eight years of psychoanalytical treatment. In another study with Richard Levy (1967), he collected many thousand animal drawings from male and female adolescents, adults, psychotics and male prisoners and gave symbolic meaning to each animal drawn which they analysed psychoanalytically. Normative distribution of all the above mentioned subjects are given in relation to the animal drawn. Personality analysis through H-T-P Test was initiated by Buck (1948) followed by Hammer (1967) who modified H-T-P Test by introducing colours and crayons and developed scoring criterion to know the various aspects of personality in relation to the number of colours used. In another study he investigated the personality of different patients through
chromatic H-T-P Test. Hammer tested the validity of his
criterion with Buck analysis of H-T-P Test. Jolles (1967)
investigated the personality of mentally retarded student
through H-T-P Test. Brown (1962) investigated the usability of
H-T-P Test in the clinical setting while investigating the
personality of a ulcerative colitis patient due to emotional
problems.

**EVALUATION**

The studies of Bertschinger (1911) and Pfister (1917)
were based on a single case study. The explanation of various
components of personality such as "Complexes" were not tested
scientifically. Pfister (1917) divided drawing into two
components like that of dreams but never explained the origin
of "latent" and "manifest" part of the drawing. Burr (1916)
simply noted the symbolic and the erotic nature of the insane
drawing and gave no explanation of the terms. Kempf (1920)
did explain symbolism in insane art in terms of inhibition
which he contends, "does not remain in insane so his unconscious
mind expresses itself in symbols." He felt that the latent part
of the drawing is erotic but gave no explanation. Lewis (1928)
did try to know the latent part with the help of free association
but could not find the origin of erotic nature of latent part
of the drawing. Kris (1936) explained insane art in relation to
ego which he stated "looses its control over "Id". These studies
were unscientific and unsystematic because the explanation offered
by these studies was the by-product of the psychoanalytical
treatment. Heyer (1933) made an attempt to know the deeper
conflicts of personality by asking his patients to draw while diverting their attention. He did not explain the purpose of his procedure adequately because his clinical approach was primarily concerned with the treatment of the patients. Hammer (1967) did explain Mayor's purpose of diverting attention, while giving the clinical explanation of doodles, which itself is not a standardised projective technique.

Pfister (1934) tried to investigate his psychoanalytical assumptions with proper experiment conducted on 431 insane and 100 controls but he could not handle his data statistically. Wartegg (1939) devised systematic method of investigating personality through Wartegg Drawing Completion Test, but he did not define the nature of the sample (planned or incidental) properly. Wartegg did not put his assumption to any statistical verification. This was done by Kinget (1952) who standardised the Wartegg Drawing Completion Test on normal population, to understand the type of emotion, imagination, intellect and activity. Dosajh (1960) like Kinget studied imagination and emotional maturity systematically and validated his statistical findings against the well defined criterion. The studies of Kinget and Dosajh were successfully able to bridge the gap between researchers and clinicians in spite of the limitations of their studies because they were standardised on normal population. Their criterion is useful in vocational guidance centres and in the field of research, where normal population is to be dealt with. The study of Hellersberg (1950), which deals with the individual's relation to reality in American culture, has little importance in clinical setting where finer
grouping is required and which Hellessberg's criterion failed to fulfil. The studies of Machover (1949), Buck (1948) and Rosenberg (1949) gave body-image by hypothesis which facilitated lot of research. Buck (1948) developed qualitative and quantitative scoring method for personality analysis on H-T-P Test. Hammer (1967) modified the H-T-P Test by introducing colours and tested the usability of H-T-P Test in various clinical settings to investigate the personality of psychotics, sex deviants, patients having character disorder and others with guilt complexes. Hammer's approach is systematic to know the deeper conflicts of personality with the help of colours in H-T-P Test. Brown (1967) tested the usability of Hammer's and Buck's criterion to investigate the personality of a patient suffering from ulcerative colitis. Brown's study was a bold step to bring clinicians and researchers together to understand each other's approach without any prejudice and bias. Levy (1950) collected 5500 various drawings from school and college student patients from various clinical settings and validated body-image hypothesis. Levy did not use any statistical methods to segregate various drawing variables which reflect various personality correlates. With his scientific experience with projective drawings, he formulated a theory dealing with the nature of the drawing contents and symbols in various situations. Levy's theory exposes those clinicians and researchers who have become slaves of their impulsive and reckless methods of handling projective drawing data. It is evident from the above discussion that most of the studies deal with the body-image hypothesis and others are confined to the investigation of personality of
students, undefined patients, adolescents, adults, psychotics, prisoners, sex-deviants, patient having character disorder and patient having ulcerative colitis. No attempt has so far been made to segregate the drawing variables which correlate with the neurotic traits.

II Studies Dealing With Group Differentiation Through Projective Drawings.

Psycho-diagnostic importance of the drawings was stressed and felt by many in the nineteenth century. The scientific investigation of the drawings began in twentieth century when Lewis (1928) labelled the drawings as "avenue of projection". Following are the few relevant studies dealing with the group differentiation through projective drawings.

Simon (1876-80-88) differentiated various clinical manifestations on the basis of their drawings. Patients with delusion of persecutions made symbolic drawings of their delusions. Maniacs reflected confusion and unnatural use of colours whereas megalomaniacs showed logic and co-ordination in their drawings. Schizophrenic patients made incoherent and inconsistent drawings. Feeble-minded patients made child-like drawings and also showed limitation in their drawings. Sexual drawings were made by nymphomaniacs.

Sollier (1891) differentiated different types of feeble-mindedness on the basis of their drawings.
Seglas (1892) differentiated nonpsychotics and psychotics, such as paranoids, maniacs, schizophrenics and feebleminded on the basis of their drawings.

Mülliken (1899) analyzed the drawings of insane, feebleminded, epileptic and criminal insane patients. He compared the drawings which they made before the onset of the illness and after the illness. The contents of the drawings after the illness reflected symbolism, fabulous creatures, religious objects, obscene representations and design of "inventions". The patients made elaborate drawings but generally these drawings lacked details. Men were more inclined to draw than women. Epileptic rarely drew, they made the drawings either religious or obscene in nature which depicted no symbolism. The insane criminals made very little but producing crude drawings in which symbolism was very prevalent. The feebleminded hardly made any drawings.

Abramov (1901) asked his abnormal subjects to analyze and explain reproduction of paintings, to complete verbal phrases, to name pictures from incomplete pictures, and to name an object from incomplete outline drawing, to differentiate different types of abnormalities.

Roger De Fursac (1905) supported Seglas and differentiated various clinical syndromes on the basis of drawings. He asserted that the drawings are directly related to the patient's clinical manifestations. Unlike Lombroso, he states that artistic talent in the light of aesthetic and creative ability is not found in psychosis.
Hoffe (1913) asserted that artistic expression is rare among insane. He stressed the importance of taking drawings from a normal person and pre-psychotic state to go into the details of insane drawings. Hoffe further suggested the need for consistency which can be obtained by taking various drawings from the same patient to generalise the diagnostic label.

Schilder (1924) described the normal and psychotic art in terms of inhibition which does not remain in psychosis. He pointed out that ability to draw is not affected with the advancement of psychosis.

Vinchen (1924) differentiated various clinical manifestations such as paranoiacs, manic-depressives, megalomanics, depressive drug addicts, alcoholics and epileptics, on the basis of their drawings. Paranoiacs make highly decorative drawings of various inventions while others represent their own hallucinations and visual illusions. Manic-depressives draw willingly. Megalomaniacs draw their own portrait in the royal robes with erotic scenes. Depressive drug addicts draw rarely, although they often write. Extreme cases of drug addicts and alcoholics could not draw due to motor and sensory disorders although in milder states, they draw their hallucinations. Epileptics depict in their drawings brutal and religious scenes. Vinchen found stereotyped repetition of form which appears to be decorative in the drawings of schizophrenic patients.

Rodriguez Lafons (1927) found no difference in the drawings of insane and prisoners, both are motivated by what he termed as "social isolation: internal and external" respectively.
Sato (1933) compared the schizophrenic drawings of visual objects and patterns, with control group (non-schizophrenics). He reported stereotype negativism, heterogeneity and fluctuation of time in the drawings of schizophrenic group whereas primitive characteristic in the drawings prevailed in both the groups.

Bender (1930) asked his insane patients to copy the design of the various drawings. He analysed the characteristics of the design and made scoring criterion with the help of which he differentiated various clinical manifestations.

Schuba and Cowell (1939) differentiated different clinical manifestations on the basis of the drawings of 168 unselected adult patients (122 women and 46 men). No drawing instructions were given. They provided oil and water colours, clay, pastels, charcoal, and pencil to the patients who showed their willingness to draw. The patients were given some help if they came across any difficulty to carry out their ideas. In order to test the hypothesis that "art expression in a normal person tends to show a balance between activity and restraint in mental state", and in abnormal person's drawings the dominance of either "activity" or "restraint". Each drawing was rated on a scale ranging from 0-100 called R.A. index in four areas i.e., productivity, design, imagery and technique. The zero end indicated "restraint" and 100 end indicated "activity". The four individual ratings in each area were combined to calculate the average in order to get the total R.A. index. Below 40 comes the area of "restraint" and above 60 comes the area of "activity". They found psychoneurotics,
manic-depressives in the depressive phase and patients with psychosis due to drug addiction come in the "restraint" area whereas dementia praecox, paranoid conditions, psychopathic personality, alcoholic psychosis and manic-depressive psychosis in the manic phase come under "activity" region. They further validated their work during the treatment of eight patients who showed changes in R-A index.

Anastasi and Foley (1943) reported extensive use of colours in the drawings of schizophrenic and manic-depressive patients in manic stage.

Napoli (1946-47) conducted a comprehensive survey relating to personality diagnosis through finger painting and gave interpretation on the basis of different painting categories to different clinical manifestations like paranoids and schizophrenics. He further suggested that total eight paintings should be required to give reliability. Napoli found well defined male and female trends in colour preferences. He suggested that structuring of the content should be carefully studied. He found disconnected and independent layers in the painting of schizophrenics whose verbal expression did not have any relevance to the painting. The paintings of paranoids showed characteristic organization (reflecting symbolism of the self-concept) and systematic arrangement of figures.

Harrover (1950) analysed the drawings obtained through the "Most Unpleasant Concept Test" of 500 psychiatric patients (to whom full battery of psychological tests like Rorschach, Man-Woman Drawing Test, Szondi Test and Wechler-Bellevue Test had been administered) and 450 subjects who did not show any
overt psychological symptoms. He rated drawings and behaviour manifested on "Most Unpleasant Concept Test", on a six point scale and obtained two types of responses which could be used to detect less seriously disturbed and more seriously disturbed individuals.

Caligor (1952) compared the eight card drawing sequence with the single figure drawing at each end of the sequence in an effort to validate the hypothesis that the greater depth of the conflicts are tapped by continued re-drawing. Results indicated that the strong paranoid trends were significantly detected with a deep depth on the Eight Card Re-Drawing Test as a whole than on the 8th drawing of the Eight Card Re-Drawing Test. In an another study in (1953) Caligor differentiated normals and hospitalized psychotics and different types of psychotics on ten more variables.

Gunzburg (1952) advanced the psycho-diagnostic concept of the drawings and reported that drawing classifies patients in the pathological versus non-pathological dichotomy and gives an estimate of patient's intelligence level. It further differentiates neurotic traits and anxiety area in the personality structure of the patient.

Schoch-Bodmer (1952) differentiated children with various clinical syndromes with the help of drawing and Luscher-Colour Test. He agreed with Luscher that the preference of certain colour combination is the characteristic of certain personality traits.
Bauer (1952) differentiated drawing characteristics of 3 suspected schizophrenics, 18 epileptics, 11 patients with mental deficiency, 26 enuresis and psychopaths on Wartegg Drawing-Completion Test.

Duhn (1952) administered Drawing Completion Test to 1600 subjects of various groups (like younger children, elder mentally retarded children, adolescents and adults) in an effort to study "Lack of attention to the starting sign". Results indicated that the "Lack of attention" trait can differentiate various groups.

Dosajh (1956) compared the drawing contents and test behaviour of normal and abnormal adults on Horn-Hellersberg Test. He found uncoordinated, loose, unreal and lifeless sketches, which include morbid images, sexual parts and weapons like swords, knives, spears, guns and pistols in the drawings of abnormals. They also showed distraction, restlessness and emotional excitement with meaningless gestures in their behaviour during drawing task.

Yacorzynski and Neymann (1946) recorded the responses of psychotics on drawing completion test. They pointed out that "the test situation simple enough to allow a thorough analysis of responses and yet of sufficient complexities so that individual is not too restricted in his response". Time was recorded which the subject took to complete each figure and the test was discontinued with the wish of the patient. Results indicated that sex, age, educational status and time taken to
complete the test were not significant. However motor activities in the drawing were significant.

**Group Differentiation Through House-Tree-Person Test (H-T-P Test).**

Pyne (1948) differentiated normals, psychoneurotics, schizophrenics and psychopaths on the basis of style of using colours on House-Tree-Person Test (H-T-P Test).

Hammer (1954-55) analysed the "Tree" drawings on H-T-P Test of rapists, homosexual-pedophiles and hetero-sexual pedophiles. He found that homosexual pedophiles draw "dead tree" greater than those of rapist. Those patients who engage with children draw significantly younger tree than who rape adult females.

Hammer (1953) administered House-Tree-Person Test to the subjects before and after "eugenic sterilization" in an effort to validate the assumption that "the subjects who undergo eugenic sterilization would be prone to respond with feeling of castration". Significant difference was found on twenty-six of the forty-four items compared. He reported that objects like chimney, branches, tree-trunk, arms, nose, legs, and feet in the drawing of House-Tree-Person Test are "phallic symbols" whereas circles, triangle and objects with vertical cut down the centre like window with a stress on vertical "slash line" may be taken as vaginal symbols and all these depict the "Castration anxiety".

Michal-Smith (1953) compared the drawings of adolescent subjects having normal electro-encephalograms with those having abnormal electrical functions. He analysed the drawings on
the basis of Buck's six scoring categories: Detail, Proportion, perspective, Time, Criticality and Line-quality. Significant difference was found between the two groups in the Line-quality.

Hammer (1967) analysed the drawings of various psychiatric patients having different clinical manifestations on achromatic (without colours) and chromatic (with colours), in House-Tree-Person Test. He found that an average normal person employs three to five colours for making House, two to three colours for making Tree and three to five colours for making person, on House-Tree-Person Test. Inhibited use of colours below this average range reflects that the person is unable to make warm and healthy relationship, whereas those individuals who make use of more colours than the average range reflects their inability to control their emotions.

Cooper and Caston (1969) compared the size of the human figure on House-Tree-Person Test of patients, who were told that they will have to go under heart surgery (experimental groups), with the group of those patients who were told that they do not need heart surgery (control group). The patients in the experimental group make large size figure after they were told about the heart surgery.

**GROUP DIFFERENTIATION THROUGH DRAW-A-PERSON TEST (D-A-P TEST)**

Royal (1949) compared the Draw-A-Person Test drawings of normals and anxiety neurotics. He reported that neurotics draw trunk and head in a rectangular and circular shape significantly greater than those of normals.
Smith (1949) compared Draw-A-Person Test Drawings of schizophrenic patients (married and unmarried) with other general hospital patients drawn from other departments, who served as normal group. He found that the genital were drawn more frequently by married schizophrenics than unmarried schizophrenics. Normals show differentiation of body parts more frequently than the schizophrenic group.

Goldworth (1950) compared man and woman drawings of 50 normals, 50 neurotics, 50 psychotics and 50 brain damaged and reported significant difference between the four groups in relation to (i) Facial expression shown in the drawings; neurotics draw figures reflecting more unhappy expressions than normals, schizophrenics show "doll like" and "peculiar" expressions whereas brain-damaged draw "empty expressions". (ii) Size and shape of the head; normals draw more proportionate and accurate heads than neurotics, schizophrenics tend to draw inaccurate and distorted heads with no relevant details whereas brain damaged draw heads with no proportion at all. (iii) Accuracy, proportionality and distortion in arms and hands; neurotics draw disproportionate and rigid arms, less in motion in natural pose more than normals whereas schizophrenics draw "accurate" arms less frequently than normals and neurotics. Schizophrenics draw more disproportionate rigid and lacking in muscular tone than neurotics and normals; brain damaged draw "accurate" arms less than other groups. Normals and schizophrenics show well proportionate and less distorted hands than neurotics in their man and woman drawings. (iv) Accuracy, proportionality and omission
in legs and feet drawing; normals draw well proportionate legs and feet than neurotics, schizophrenics and brain damaged. Normals omit feet in the drawing of a man more than neurotics and brain damaged, who also show more distortions in drawing the feet. (v) Proportionality of the female trunk; normal men made more accurate female trunk than normal female, however, on the whole normal make more accurate trunk in the drawing of a woman than the other groups. (vi) Shading; normals do less shading on ears than hips, than other groups, whereas on other parts normals do shading equivalent to other clinical groups. (vii) Erasure: normals erase more than other groups, however neurotic use more erasure on arms, hands, hips and ears. On nose and shoulders, neurotics erase less than normals but more than schizophrenics and brain damaged patients. Goldworth was unable to differentiate the four groups in relation to equilibrium shown in the drawings, shape of the nose, shoulders and buttocks. He found natural movements in the drawings of normals than the other groups.

Holzberg and Wexler (1950) compared Draw-A-Person Test drawings of 36 schizophrenic females including paranoids, hebephrenics and simple schizophrenics with 78 student nurses (adolescents), who were taken as normals. They reported no significant difference between the two groups in relation to the presence and absence of facial feature, teeth, shading the lips and showing an object in the mouth in their Draw-A-Person Test drawings. They reported more female figures having mouth
with turned up corners and shading in the drawing of normal group
then the hebephrenic and schizophrenic drawings, but no
significant difference was reported between drawings by normals,
hebephenics and paranoids in relation to the position of the
mouth i.e. turned down and open. No difference was noticed
between the drawings of normals and any type of schizophrenic
drawings in relation to the shape, size and shading of the nose
and ear but schizophrenics generally either draw no ear or make
it where it is not required. Making the hair inadequately,
differs significantly between normals and schizophrenic group.
Normal women significantly erase more than paranoid schizophrenic
women but no significant difference was found between normals and
hebephrenic women in the use of eraser. Normal women do more
shading on arms, chest and waist than schizophrenics and paranoid
schizophrenic women, whereas normal women do not shade on these
parts more than hebephrenic women. No significant difference was
reported between normals and schizophrenics in relation to the
type and shape of breast which they draw i.e. nude, narrow and
showing nipples. Normal women draw shoulders significantly
different than schizophrenic woman. Normal women draw both legs
and feet more than schizophrenic woman. Normals draw small
pointed feet than hebephrenic women. Normals differ from
paranoids on the line emphasis in drawing out the legs. Significant
difference was found between normals and hebephrenic schizophrenics
in drawing the eyes but no difference was reported between normals
and paranoid schizophrenics in drawing the legs on Draw-A-Person
Test. Normals differ significantly from schizophrenics and
paranoid schizophrenics in detailing the eye-brows but no difference was found between normal and schizophrenic group on the whole in omitting the eyes. Normals and schizophrenic women differ significantly in relation to the position of the arms and hands drawn. On the whole schizophrenic drawings were empty and lacked in details.

Prater (1950) found no significant difference in the head shape of the human drawing on Draw-A-Person Test between hemiplegic patients and normals.

Guttmann (1952) analysed the drawings on Draw-A-Person Test of patients who improved after getting psychotherapy and who did not improve (schizophrenics and paranoiacs) after getting psychotherapy. No significant difference was found between the two groups in drawing the mouth with a single line, the amount of hair, excessive detailing of hair and presence and absence of ears. The patients who did not improve showed tendency to draw piercing eyes. The significant difference was reported in the size of the figure as the prognosis advanced, in the drawings of the patient who improved after psychotherapy.

Barker, Mathis and Powers (1953) studied the drawing characteristics on Draw-A-Person Test of homosexuals and normal individuals. They reported that homosexuals showed greater hostility towards woman in their drawing than the other group. The homosexual took longer reaction time in identifying with the self-sex figure than the normal group.
De Martino (1954) compared the human figure drawings of mentally retarded homosexuals and mentally retarded normals. He reported no significant difference between the two groups in relation to the shape of head, nose, lips, showing an object in the mouth, shape of the eyes, eye-brows, hair and showing their details. However, he found significant difference between the two groups in drawing the eye-lashes.

Exner (1962) compared human figure drawings of psychoneurotics, character disturbances, subjects experiencing exceptionally induced fear and normals. He suggested that global rating of figure drawing was more useful and effective diagnostically than any single sign approach.

SUMMARY

Psycho-diagnostic importance of the projective drawings was stressed by Simon (1876-80-88), Seglas (1892) and Vinchon (1924) who studied drawing characteristics and differentiated various clinical manifestation unscientifically. Erdlicka (1899) studied drawings before the onset of illness and after the illness to find the difference. Rouges de Pursac (1905) explained the abnormalities in the drawings with an inadequate reasoning. Nacke (1913) stressed the need to take many drawings from one patient to see the consistency of drawing variables which reflect symptoms. Schilder (1924) explained normal and psychotic art in terms of inhibition. Sato (1935) found difference between schizophrenic and non-schizophrenic in relation
to time and other drawing variables. Schube and Cowell (1939) differentiated various clinical manifestations in broader categories in relation to "activity" and "restraint", which they show in their drawings. Bender (1938) validated that the brain impairment affect gestalt functions and differentiated brain-damaged patients. Anastasi and Foley (1943) differentiated schizophrenic and manic-depressive patients in relation to the use of colours in their drawings. Napoli (1946-47) explained male and female trends with the help of colours used in the painting task and differentiated various clinical syndromes and stressed the need to determine reliability of their technique. Harrower (1950) differentiated patients in two categories i.e., less seriously disturbed and more seriously disturbed. Caligor (1954) validated the hypothesis that greater depth of the conflicts is tapped through continuous re-drawings in paranoid patients. He differentiated different types of psychotics and normals on ten drawing variables on eight card re-drawing technique. Ganzburg (1955) differentiated subjects into pathological versus non-pathological. Schoch-Bodmer (1952) validated the hypothesis that certain colour combinations are the characteristics of certain personality traits and differentiated children with various psychiatric syndromes. Burr (1952) recorded differentiating drawing characteristics of various clinical manifestations on Wartegg Drawing Completion Test. Dhun (1952) used single sign approach in differentiating various clinical manifestations. Dosajh (1956) compared normals and
abnormals in relation to many drawing variables and behaviour manifested during the test on Horn-Hellersberg Test. In another study he compared the responses of violent and non-violent on Horn-Hellersberg Test and 'D' Test in order to test the reliability of various drawing variables. Group differentiation on H-T-P Test was initiated by Pyne (1948) who differentiated different clinical manifestations into four broad categories in relation to the use of colours on H-T-P Test drawings. Hammer (1954-55) statistically differentiated rapists, homosexual pedophiles and heterosexual pedophiles through a single variable on H-T-P Test. In another study in 1967, he compared the responses of different types of psychiatric patients on H-T-P Test and chromatic H-T-P Test. Michel-Smith (1953) significantly differentiated H-T-P drawings of adolescent subjects having normal E.E.G. and abnormal E.E.G. Cooper and Caston (1960) differentiated patients going for heart surgery and patients who were told that they do not need heart surgery on size of human drawings on H-T-P Test. Research dealing with the group differentiation on Machover's Draw-A-Person Test was initiated by Royal (1949) who differentiated anxiety neurotics and normals significantly on the shape of the trunk and head drawn on D-A-P Test. Smith (1949) significantly differentiated schizophrenics and normals on a single drawing variables on D-A-P Test. Goldworth (1950) differentiated neurotics, psychotics, brain damaged and normals on sixteen variables on D-A-P Test. Holzberg and Wexler (1950) differentiated different types of schizophrenic patients and normals on number of variables on
D-A-P Test. Guttman (1952) differentiated patients who improved after psychotherapy and who did not show any sign of improvement on a single variable on D-A-P Test. Barker, Mathis and Powers (1953) validated the hypothesis that homosexuals show more hostility towards women than normals on D-A-P Test through a single variable. De Martino (1954) differentiated mentally retarded homosexuals and mentally retarded normals through a single variable on D-A-P Test. Exner (1952) compared psychoneurotics, patients having character disorder, subjects experiencing induced fear and normals on D-A-P Test and validated the assumption that global rating of the figure drawing holds a greater value than a single sign approach.

EVALUATION

The studies of Simon (1876-79-80-88), Segles (1892), Hrdlicka (1899), Rouges de Pursec (1905) and Vinchon (1924) did not explain the difference between various psychotic groups on the basis of reliable drawing variables. They dealt with their data unscientifically and could not explain the importance of the variables which they studied. Nacke (1913) realised the importance of taking drawing from normals to find the deviation by comparing the insane drawing and stressed the need to take many drawings from one patient to see the consistency in differentiating drawing variables. Nacke's approach was systematic but he did not report any experimental verification of this assumption which was followed by Sato in 1933 but he could not handle his data statistically. Schiöder (1924) tried to
explain the normal and psychotic art in terms of "inhibition", which he could not explain properly and was later explained by Rodriguez Lafora (1927) who compared insane and prisoners and explained similarity instead of dissimilarity between groups. Schube and Cowell (1939) differentiated groups in relation to activity and restraint shown in their drawings. Psychoneurotics, manic-depressive in depressive phase and patients with psychosis due to drug addiction come in the restraint side where as demantia-praeox, paranoid conditions, psychopathic personality, alcoholic psychosis and manic-depressive psychosis under manic phase falls in the activity end of their scale and only normals come in between. Their study carries a little importance in the clinical setting where much finer grouping is required in order to give adequate treatment. Bender (1938) was able to differentiate only brain damaged patients. His study is useful where the type of the brain injury is to be located. Harrower (1950) differentiated less seriously disturbed and more seriously disturbed patients. Harrower's criterion can only be used where hospitalization is to be suggested, otherwise it carries no clinical importance. Ginzburg (1952) differentiated population in relation to pathology versus non-pathology. He did not define the psychiatric criterion on the basis of which he validated his findings. Ginzburg's criterion cannot be used in the clinical setting but may be useful where normal population for research purpose is to be selected. Napoli (1946-47), Schoch-Bodmer (1952), Baver (1952), Hammer (1953) and Barker, Mathis and Power
(1953) did not validate their assumptions against the external criterion. The studies of Pyne (1948); Hammar (1954-55); Michel Smith (1953); Cooper and Caston (1969); Guttman (1952); Royal (1949); Smith (1948) and Barker/ Mathis and Reavers who differentiated psychoneurotics, schizophrenics and psychopaths; homo-sexual pedophiles and hetero-sexual pedophiles, adolescents with normal E.E.G. and abnormal E.E.G. functions; patients before heart surgery and after heart surgery; patients who improved after psychotherapy and who did not improve after psychotherapy; normals and anxiety neurotics; schizophrenics and normals; and homo-sexuals from normals, are not valid in the clinical setting because they differentiate the groups only on one or two drawing variables which cannot be taken as a valid criterion to differentiate the groups. However, these studies are able to reduce the diagnostic confusion in respect to broader grouping, but no attempt has been made to standardise a criterion which can help finer grouping in the clinical setting. The normal sample was not adequately selected by Caligor (1952), Royal (1949), Smith (1948), Goldworth (1950), Holzberg and Wexler (1950) and Prater (1950). Those subjects were taken as normal who do not show any overt symptoms. It has been found that many people who do not show overt symptoms score high on neurotic traits and have other abnormal tendencies. It is evident from above discussion that no attempt has been made to differentiate various types of psychoneurotics and well defined and adequately selected normals.
The need of the reliability in projective drawings was stressed by Nacke in 1913, but the experimentation began when Machover in 1949 gave her body image hypothesis. Following are the few relevant studies.

Albee and Hamlin (1949) investigated personality adjustment through drawings by a global method and by using a rating scale which they gave to experienced clinical psychologists to find out inter-judge reliability of the various drawing categories. Results indicated high reliability.

Fisher and Fisher (1950) reported no significant difference between normals and paranoid schizophrenics in relation to the eyes drawn on Draw-A-Person Test. There was also low agreement between seven raters on the facial expression on their Draw-A-Person Test drawings. They differed with Machover's findings that the large head was drawn by paranoid schizophrenics.

Bradshaw (1952) in an effort to determine the reliability of structural and content aspect of the figure drawing, gave Draw-A-Person Test as a group test to 100 psychology students of both the sexes in the age range of 19 years to 55 years. Bradshaw used test-retest method, with one week interval between the two administration. Percentage method was used to calculate the consistency of the contents of figure drawing such as presence and absence of arms, mouth, lips, chin, eyes, eyebrows,
ears, hair, nose, face, neck, hands, fingers, legs, feet, shoulders, hips, waist-line, breasts and crotch. The reliability of structural aspect such as presence and absence of shading, erasure, degree of detailing, proportional size, line quality, shape, stance, accessories and the sex of the figure, were also calculated with percentage method. Reliability of distance of the figure drawn from left and top of the paper and the vertical height was calculated by product-moment correlation method. Results indicated lowest percentage of agreement i.e. 60% on shape of the figure and highest percentage of agreement i.e. 90% on presence and absence of various parts of the body. The value of the product-moment "r" in all the three variables was significant at .01 level. However, in content, the lowest percentage of agreement i.e. 65% on lips, hips and buttocks and highest percentage of agreement i.e. 84% in rating the whole drawing was reported.

Lehner and Gunderson (1952) gave Draw-A-Person Test to 91 psychology students in the age range of 18 years to 26 years, in an effort to determine the reliability of Machover's structural and content aspect of the drawing. They used test-retest method with four months interval between the two administrations and in addition they used intrajudge and inter-judge reliability. Percentage method was used to find out the consistency. The lowest percentage of 42% was found in presence and absence of breasts and highest agreement of 70% was found in presence and absence of hair. In the structural aspect, the lowest agreement of 45% on the position of the figure on the page and highest agreement of 93% was found on body type.
Hammer and Piotrowski (1953) determined the subjectivity of the raters, who rated 400 House-Tree-Person Test drawings for knowing hostility and aggression in children. They administered Szondi Test to all the raters to detect their hostility and aggression. Hostility scores of the raters correlated significantly with the judgement of their House-Tree-Person Test drawings.

Swenson (1955) analysed the Draw-A-Person Test drawings to detect the sexual identification. He used the scale to know the sexual identification and obtained inter-judge reliability coefficient of .84 of Draw-A-Person Test drawings for this trait.

Wagner and Schubert (1955) in an effort to construct a scale for measuring "quality" of the drawings on Draw-A-Person Test, rated the drawings in 7 categories ranging from poorest to the best quality by different judges. They determined the interjudge reliability of the scale which was .90 and .85 for experienced and inexperienced judges respectively. Further the reliability of the quality of the same sex figure was .86 which they determined by test retest method.

Dosajh (1960) measured Imagination and Emotional Maturity of adults through Horn-Hellersberg Test. The behaviour during the test was also observed. The subjects who made drawings reflecting high quality of form and originality, were rated high for imagination, whereas subjects who made vague sketches having poor organization were rated low for imagination.
Maturity was measured taking into consideration the number of human drawings whereas animal drawings reflected lack of capacity for creative work and low emotional maturity. Dosajh determined the reliability of Horn-Hellersberg Test through a parallel form called 'D' Test. The interval between the two administrations was of one day. The contingency coefficient of reliability for imagination and emotional maturity was .64 and .62 respectively. He used Rorschach Test in order to determine the validity and the coefficient of correlation for imagination and emotional maturity were .78 and .69 respectively.

**SUMMARY**

The need for the reliability of the drawings was felt and stressed by Halle as early as in 1913, but its experimentation began when Albee and Hamlin (1949) studied adjustment through many drawing variables and determined the reliability of their adjustment criterion by asking expert clinical psychologist to rate the drawing. Fisher and Fisher (1950) determined the reliability of facial expression on D-A-P drawings made by paranormals and normals through seven raters who reported low agreement. Brandshaw (1952) and Lehner and Gunderson (1952) determined the reliability of structural and formal aspects of the D-A-P drawings made by psychology students through test-retest method. Brandshaw used one week interval whereas Lehner and Gunderson used four months interval and in addition they used interjudge/intrajudge method of scoring. Brandshaw reported high reliability of body parts and low reliability of structural aspects whereas Lehner and Gunderson reported low reliability of some body parts and high reliability of structural aspects. Swenson (1955)
reported high interjudge reliability of a scale which he used to determine the sexual identification through D-A-P Test. Wagner and Schubert (1955) determined the reliability of a scale for measuring the quality of the drawing and the quality of the same sex figure. He reported .90 and .85 reliability coefficient for experienced and inexperienced judges (interjudge reliability) and .86 reliability coefficient by test-retest method for same sex figure. Hammer and Piotrowski (1953) determined the subjectivity of raters who were asked to determine the inter judge reliability of H-R-P drawings in order to know hostility and aggression. Dosajh (1960) determined interjudge and intrajudge reliability of various drawing variables on H-R- Test for measuring imagination and emotional maturity.

EVALUATION

The reliability of projective drawings depends upon a well defined criterion and objective interpretation of each drawing variable. Albee and Hanlin (1949) and Swenson (1955) initiated the use of rating scales but did not investigate the usability of the rating scale when used by experienced persons. Fisher and Fisher (1950) and Lehner and Gunderson (1951) investigated the practicability of the rating scales and reported low agreement by seven raters. Their approach was very systematic but they did not explain the reason for the low agreement which was explained by Wagner and Schubert and attributed the high reliability to the subjectivity of the judges which was experimentally shown by Hammer and Piotrowski (1953) who investigated subjectivity of the raters who rated the drawings.
to find a particular personality correlates. Their study proves that personality correlates reflected through drawing variables cannot be judged objectively by using interjudge reliability, however the quality of structural aspects such as quality of the line, size of the figure etc. should be objectively defined. The studies of Albee and Hamlin (1949), Brawshaw (1952) Lehner and Anderson (1952), Swenson (1955), Hamner and Pietrowski (1955), Wenger and Schubert (1955) and Dosajh (1960) determined the reliability of various drawing variables on normal population. The study of Fisher and Fisher (1950) tried to determine the reliability of a single trait i.e. facial expression on D-A-P test which differentiate paranoids from normals. No effort has been made to determine the reliability of drawing variables which differentiate various clinical groups such as psychoneurotics, schizophrenics etc.

IV Studies Dealing With The Validity of the Projective Drawings.

The drawing variables reflecting the personality dynamics were investigated somewhere in the middle of twentieth century by using different methods such as information about the subject from case-histories or from those who know the subject; free association; symbol translation by functional analysis; psychiatric report; information about the subject from other tests such as Rorschach Test, T.A.T. and other non projective tests.
The initiative of validating the findings obtained through drawings came from those clinicians who were putting their efforts to validate Machover's body image hypothesis which states that the subject projects physical as well as psychological image on to the drawn person.

Machover (1949) reported that deaf people or those who have abnormal or disturbed auditory experiences always give special attention to the ear of a drawn person by making it conspicuous in some way. She reported the case of a male who was suffering from polio, who reinforced the lines around ankle in his drawing of a person.

Hamer (1967) analyzed the D-A-P Test drawing of a man who was born without appendages and gave distinct treatment to the left arm of his drawn person showing it less effective than the right arm.

Bender (1952) noted short length of the leg of a drawn person by a child having the same congenital short leg. In another drawing made by child who had a disabling feet due to some neurological defect, Bender found one legged people or people riding in carts.

De Martino (1954) validated Machover's hypothesis that large eye with large eye lashes are drawn by homosexuals, while comparing the D-A-P drawings made by mentally retarded homosexuals and heterosexuals.

Levy (1950) reported "if the eyes are large and if those of male figure have lashes, the subject is almost surely
homosexual". Meyer, Brown and Levine (1955) administered H-T-P test to various patients before and after surgery such as ear operation, breast removal, leg amputation and loss of an eye. The part affected by surgery was shown with some conflict indicator such as shading, erasure, omission etc. Loss of a limb or of sense organ on one side of the body was projected on the same side of the figure drawn such as if the patient's left arm has gone under surgery, he expressed his painful awareness of this fact by drawing his tree with the left side broken branch, and with the left arm of his drawn person withered or shown useless such as hanging by a thread from the shoulder or hidden defensively behind the back. Their findings validated the body image hypothesis.

Derman and Leffel (1953) found significant correlation between body type of the subject and the figure drawn. Sporel (1940) found significant relationship between drawing interpretation and personality sketches of retarded children.

Waehner (1946) analysed the drawings of college students and made descriptive personality sketches on the basis of various drawing variables. He validated his findings against the Rorschach interpretation. In another study he validated the evaluation of spontaneous drawings and paintings with the opinion of those who knew the subject.

Cornell and Gold (1952) evaluated the personality of 44 hospitalized mentally ill adult patients through paintings and found high correlation with the psychiatric interview and psychological testing.
Gallese and Spoerl (1954) compared figure drawings and T-R-T stories of twenty five male students. They reported that seventy two percent cases have agreement in the same area on both the tests.

Gunsberg (1955) reported significant correlation between the diagnosis of pathalogy made on the basis of projective drawings and psychiatric opinion. There was positive correlation between the diagnosis of pathalogy or non-pathalogy based on eighty sets of drawings and diagnosis based on clinical picture. Seventy four percent of the cases were placed by the drawing criteria in the same category as that of psychiatric opinion and only 12.5 percent cases were placed in the category which disagreed with the psychiatrists. The remaining 13.5 percent were considered doubtful on the basis of the drawing criterion. This result was significant at .01 level.

Craddick, Leipold and Cacavas (1962) reported reliable relationship between "shading" on D-A-P Test and anxiety.

Brown (1967) validated H-T-P Test findings against the clinical judgement of a patient having ulcerative colitis due to emotional problems.

Doubros and Mascarenhas (1967) reported that Machover's signs of anxiety such as "shading", "erasure" and "omission" were not valid index of anxiety produced in the classroom.

Hammer (1967) investigated the personality of an adolescent sex offender on chromatic H-T-P Test and validated the results against Buck's criterion on H-T-P Test.
Kinaet (1952) investigated different types of emotions, imagination, intellect and activity on Wartegg Drawing Completion Test and validated the results against rating scale, forced choice test and the opinion of those who know the subject.

Dosejhl (1960) studied imagination and emotional maturity through Horn-Hellersberg Test and validated his drawing analysis with Rorschach Test.

Hammer (1967) validated his findings on chromic H-T-P Test of various types of patients against clinical history.

Brown (1967) investigated the usability of H-T-P Test while investigating the personality of a patient suffering from ulcerative colitis. The H-T-P evaluation was compared with clinical findings.

Jolles (1967) investigated the personality of a child through chromatic H-T-P and correlated the findings with the rating of the teacher.

**SUMMARY**

Most of the studies like Machover (1949), Bender (1952), Meyer, Brown and Levene (1955) and Hammer (1967) validated Machover's assumption that physical and psychological image is projected on to the figure drawn. De Martino (1954) validated Machover's hypothesis that homosexuals draw large eyes and eye lashes. Levy (1950) generalized the above findings on normal homosexuals. Spoerl (1940) matched drawing's analysis of personality of mentally retarded children with the findings of
other tests. Machover (1949) validated the drawing analysis of students against the opinion of the teacher. In another study he validated the drawing analysis against the judgement of those who knew the subject. Campbell and Cold (1952) validated the drawing evaluation of an undefined hospitalized patients against psychiatric interview and psychological testing and found high correlation. Gallese and Spoerl (1954) validated the drawing analysis of mentally retarded children with T.A.T. stories. Agreement was found in 72% cases. Gunsberg (1955) reported high correlation between the drawing analysis of pathological versus non-pathological cases with the psychiatric rating. Craddock, Leipold and Cacavas (1962) reported reliable relationship between "shading" variable on D.A.P. Test and anxiety. Dubros and Mancarenhas (1967) reported that shading, erasure and omission on D.A.P. Test are not valid index of anxiety produced in the class room. Brown (1967) tested the usability of H.T.P. Test in clinical setting by analysing the personality of ulcerative colitis patient. Jolles (1967) validated her findings of personality analysis on H.T.P.Test of a student against the rating of a teacher. Hammer (1967) validated his criterion of personality analysis on chromatic H.T.P.Test with Buck's criterion on H-T-P Test, while analysing the personality of a sex offender. Dosajh (1960) and Kinget (1952) standardized 'D' Test and Wartegg drawing completion test respectively on normal population. Dosajh validated the drawing variables reflecting emotional maturity with the Rorschach variables. Kinget validated his finding against the well-defined criterion.
EVALUATION

Most of the studies dealing with the validity of the figure drawings, concentrated on the validity of body image hypothesis. Machover (1949), Bender (1952), Meyer, Brown and Levene (1955) and Harmer (1967) validated the body image hypothesis with two to three cases. They did not support their findings on the basis of adequate sample and statistical analysis. De Martino (1954) statistically differentiated mentally retarded homosexuals with mentally retarded non-homosexuals on high heels and eye lashes shown in their drawings. His findings were in accordance with Machover's hypothesis. Levy (1950) generalized the above findings on normal homosexuals and stated "if the eyes are very large and if those of male figure having eye lashes, the subject is almost surely homosexual". Levy did not explain this generalization in the light of his hypothesis which states that "same drawing or symbol in another case may be resultant of the different field." Thus, large eye and eye lashes in one case may reflect homosexual trends whereas in another case it might reflect some other trends. Spoerl (1940) and Waehner (1946) validated their drawing analysis of mentally retarded against the different tests and teacher's rating respectively. Spoerl and Waehner did not make any objective drawing criterion of drawing variables. Waehner (1946) in another study validated his analysis of a student's personality against those who knew him. The information of those who knew the subject may not be adequate or valid or it may be subjective. Waehner's criterion was faulty. Gallesse and Spoerl (1950) validated their personality
analysis of mentally retarded against T.A.T. stories. Their
study was empirical and was not based on any objective
criterion. Ganzberg (1955) validated pathology versus non-
pathology against psychiatrist's rating, but he did not explain
the criterion on the basis of which psychiatrist gave his
findings. Craddick, Leipold and Cacoves (1962), and Dubros and
Maccarenohas (1967) reported relation of shading with anxiety and
no relation of shading with anxiety respectively could not define
the term anxiety before investigating its relationship withdrawing
variables. Brown (1967) validated the usability of H.T.P.Test in
clinical setting. The study has brought clinicians and researchers
together to see their problems without any bias and to improve
their faults. Hammer (1967) tested the validity of his criterion
of personality analysis on H.T.P. against Buck's criterion on
H.T.P. while analysing the personality of a sex offender. Hammer's
approach is very scientific and systematic to reduce the subject-
ivity in drawing analysis. The studies of Brown (1967) and
Hammer (1967) have bridged the gap between the clinicians and the
researchers only in specific area of abnormal personality. Kinget
(1952) and Dosajh (1960) validated their findings against forced
choice test, questionnaire and Rorschach test respectively but
their studies deal with the normal population.

From the above discussion, it seems that no effort has
been made to validate the criterion which deals with the different
types of clinical groups such as neurotics and schizophrenics.

Keeping in view the discussion dealing with personality
analysis, group differentiation, reliability and validity, the
following hypotheses are formulated:-

i) 'D* Test differentiates various types of psychoneurotics from normals.

ii) 'D* Test differentiates various types of psychoneuroses.

Delimitations of The Present Study.

1. The present investigation was confined to the area of Punjab, Haryana and Delhi because people in this area are having almost same cultural values.

2. Three types of psychoneurotic patients such as Anxiety neurotics (AN), Hysterics (HS) and Obsessive-Compulsive neurotics (OCN) were taken due to their availability.

3. No effort was made to match the groups on age and educational status because of the incidental nature of the samples studied.

4. It was not possible to compare the groups on socio-economic variable because no information was available as it was kept secret according to the hospital rules.

5. Rorschach Test was used as an external criterion to avoid subjectivity in validation. The experimenter was to score the 'D' Test and 'M.M.' Test and if Rorschach Test was also administered by the experimenter it would have created a bias in validation. To check this bias Rorschach Test
was administered by the clinical psychologists of the various hospitals.

6. No effort was made to compare Rorschach variables with 'D' Test variables as the Rorschach protocols were the part of the hospital records which were kept secret according to the hospital rules.