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UNIVERSITY OF ALBERTA

COMPARISON OF HOUSE-TREE-PERSON DRAWINGS OF NORMAL AND DISTURBED CHILDREN

BY

JANNA ZOYA ROSEN-WOLLMAN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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IN

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THE UNDERSIGNED CERTIFY THEY HAVE READ, AND RECOMMEND TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH FOR ACCEPTANCE, A THESIS ENTITLED COMPARISON OF HOUSE-TREE-PERSON DRAWINGS OF NORMAL AND DISTURBED CHILDREN SUBMITTED BY JANNA ROSEN-WOLLMAN IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN COUNSELLING PSYCHOLOGY.

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DEDICATION

To David

whose energy, humour and love

provided the foundation

ABSTRACT

The aim of this study was to provide an objective interpretation of the House-Tree-Person (H-T-P) test based on its ability to differentiate between Disturbed and Normal adolescents.

In Stage One, the H-T-P drawings of 64 subjects (32 Disturbed, 32 Normal), ages 12 to 18 years, were contrasted. In Stage Two of this study, a second group of 64 subjects (32 Disturbed, 32 Normal), ages 12 to 18 years, were studied. Raters assessed 393 variables for each of 64 sets of H-T-P drawings. Results of Stage One of the study showed that 53 art indicators were evident significantly more often in the H-T-P artwork of the Disturbed group than in the Normal group. In Stage Two of the study, a second group (32 Disturbed, 32 Normal) of H-T-P drawings were contrasted using the 53 significant variables on which the subjects' artwork differed in Stage One to differentiate the second set of Disturbed and Normal groups.

House drawings by the Disturbed group reflected simplicity of detail, unconventionally shaped roofs, asymmetrical windows, and the presence of degrading details. Tree drawings by Disturbed subjects more frequently indicated the presence of bark, a curved baseline, and graphic movement. Tree drawings frequently did not illustrate the presence of a centered baseline, a branch system baseline, or abundant foliage. Person drawings by Disturbed subjects indicated volatile facial expressions, eyes without pupils, fewer eyebrows, distorted hand size, and the presence of breasts and genitalia. For the Disturbed group, there was a global disturbance in the symmetry of all drawings as well as a distinct oversimplification of the artwork.

Results indicated that 80% (51 subjects) of a total of 64 subjects were appropriately classified in either the Disturbed or Normal groups. Generally, the Person drawings had the greatest number of statistically significant items, with the Tree drawings ranking second and the House drawings ranking third.

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I. INTRODUCTION

The analysis of a child's drawings provides insight into the emotional state of the child. As the child draws various graphic images, a microcosm of affect and cognition emerges. When a child draws a House, Tree, and Person, information emerges regarding the child's fantasies, self-image, desires, and conflicts. The drawing is a graphic projection of the child's internal attitudes and concerns as well as his/her level of development and emotional adjustment. Clinically, relevant indicators in the House-Tree-Person (H-T-P) projective technique have been used to differentiate various populations of children.

Projection is the child's unconscious or latent expression of the affective aspect of the personality (Di Leo, 1973). The personality dynamics of the child dictate the style and content of each projective drawing. Projective techniques allow for freedom of response. The child is confronted with an ambiguous situation with minimal instruction from the clinician (Oster & Gould, 1987). Frank (1948) writes about projective methods when discussing the person's private world and the expression of personality. Others (Lindzey, 1961; Machover, 1949; Zucker, 1948) elaborate comprehensively in the area of projective techniques. They emphasize the unconscious process of projection. Further pioneers in the area of projective analysis include Schilder (1950), Bender (1952), Buck (1948), and Hammer (1958, 1964). They focus on the relationship of the projection of various needs and conflicts to the human figure drawing.

Many children communicate more clearly through drawings than verbal communication (Lowenfeld, 1957). The use of projective drawings enables the clinician to work with verbally withdrawn subjects so that the repressed emotions

and thoughts of the child become more transparent. Each child's perceptual process is distinctive, and commonalities in projective drawings reveal specific characteristics of personality dynamics. Projective techniques involve the understanding that art expresses the child's emotions and elicits emotional responses (Naitove, 1982; Stember, 1980; Wadeson, 1987).

Each individual responds to external stimuli in a unique manner based on his/her memories and experiences. The rationale for utilizing projective analysis with traumatized children lies with the innate qualities of art as a rehearsal for living and the arts as a haptic or sensory response to stimuli (Naitove, 1982). Drawings indicate a child's direct expression of emotions and life experiences. The content, style, and details of a drawing describe a child's interests, needs, and feelings as he/she responds to the theme of a drawing. Art Therapies are symbolic modes of communication and conceptualization. The individual assimilates information and concepts through the use of symbols and metaphors. By using symbols, the child defines a perception of reality which consequently assists the child in moving toward an adaptive development of body image awareness, adjustment to past trauma, and enhanced self-concept. The experience of drawing can strengthen an impaired ego and elevate the self-esteem of a disturbed child (Allen & Clark, 1984). Eliciting internalized conflicts through a child's artwork encourages trauma externalization.

Understanding emotional art indicators in children's art enables the clinician to assess appropriately the individual's therapeutic requirements. A child's affect may not be in synchrony with the inner conflicted psychological state as portrayed by the child's drawing. Isolating specific art indicators provide a magnification of the subject's emotional state. Projective drawings are a key to unlocking

affect from the cognitive restraints and unconscious defense mechanisms inherent in verbal communication.

A child who is psychologically healthy draws a well-integrated, symmetrical drawing with appropriate inclusions. Traumatized children produce asymmetrical drawings with various omissions. Children defend, maintain, and express artistically their private worlds through idiomatic ways of thinking and feeling (Frank, 1948).

Buck (1948) designed the H-T-P projective test to assess an individual's personality integration. The H-T-P test promotes conscious and unconscious projection of the personality by revealing its interaction with the environment. Buck thought that the H-T-P was a flexible projective device which could be used to maintain rapport with resistant clients and to facilitate subject communication and association. He noted that the H-T-P test could be particularly effective for children who were verbally limited, minimally educated, learning disabled, or emotionally disturbed.

Buck (1948) chose the House, Tree, and Person drawings because they were familiar and acceptable to children of all ages. He found that these drawings of a non-specific nature were a catalyst for communication characterized by candor and unrestraint. Buck stated that each of the House, Tree, and Person drawings could be the subject's self-portrait, as subjects draw details essential to their personalities. He also hypothesized that the H-T-P can measure the intelligence of adult subjects.

Buck's (1948) quantitative scoring manual consisted of 233 major items. A post-drawing inquiry consisted of 64 questions. The H-T-P was created to acquire significant diagnostic data regarding the person's personality integration, maturity, and flexibility.

A. Nature of the Problem

Some major limitations are evident in the area of art analysis. A paucity of research literature exists regarding the H-T-P drawings of emotionally disturbed children and adolescents. There are also problems regarding the validity and reliability of the H-T-P. Vague scoring criteria and scoring procedures cause difficulties with art indicator interpretation (Schaffer, Duszynski, & Thomas, 1984). Greater emphasis must be focused on the effectiveness of the H-T-P produced by different groups of subjects. Buck's (1948) extensive scoring system is time-consuming and utilizes scoring criteria that are complex, ambiguous, and difficult to use in a reliable fashion. Greater consistency of sufficiently validated scoring procedures for artwork are needed.

B. Purpose of the Study

This study is designed to compare the projective artwork of a group of clinically diagnosed disturbed children and to contrast it to the artwork of a group of normal school children. The purpose of the study was to see which art variables differ between the artwork of a Disturbed group of children and the artwork of a Normal group of children (Stage One) and to observe to what degree a second group of Disturbed and Normal subjects could be differentiated successfully on the variables found in Stage One.

II. LITERATURE REVIEW

Several studies have stimulated interest in the psychological aspects of children's artwork and the House-Tree-Person (H-T-P) test. Three issues are particularly relevant. First, there will be a review of literature related to psychodynamic art investigation. Second, there will be a review of literature related to art indicators in H-T-P drawings. Third, definitions of relevant H-T-P concepts will be discussed.

A. Psychodynamic Art Investigation

The analysis of art can be a relevant therapeutic device. Artwork can provide the examiner with information about a child's personality, perceptions, and experiences. Some individuals who enter a therapeutic relationship withdraw from extensive verbal expression because of personal and situational stress; creative expression media such as drawings can assist them to express repressed feelings such as fear, anger, and sadness. Utilizing nonverbal expression is based on the following objectives. If a child has successful life experiences, the child's ego-strength and self-esteem can be elevated (Kramer & Schehr, 1983; Naitove, 1982; Stember, 1983). The process of creating artwork can be a positive experience aiding in the child's personality synthesis and consequently increased self-assurance. Every individual has the capacity to project inner conflicts and traumatic events into visual forms (Bender, 1952; Furth, 1988; Machover, 1949; Naumberg, 1966; Schafer, 1953). This projection of a person's unconscious responses is often more directly expressed pictorially than verbally. Each individual has unique methods for coping with traumatic events. Through images represented in art, the child expresses needs and emotions that promote well-being.

Some children have been traumatized psychologically, physically, and/or sexually. The typical verbal methodology for treatment could be threatening to the child, since the subject experiences a high level of denial (Kelly, 1984). Sometimes a certain skill level of verbal communication is not available to a distressed individual. Subjects will symbolically or realistically express emotions through the least restrictive intervention. Since there is often a regression to previous developmental stages caused by traumatization, a sensory approach to the understanding of an individual's synthesizing process is highly effective (Naitove, 1984). Through drawings, the child deals with traumatic events in order to create desensitization and personality integration (Kelly, 1984).

Different researchers have investigated the nature of projective analysis and the relationship of art and communication. According to Freud (1955), a projected symbol represents memories that emerge through dreams and art because of psychodynamic stress. Symbols in art become a mask for anxiety-provoking content and protect the person from dealing with underlying conflict. Naumberg (1966) speaks of dynamically oriented art therapy. She states that, based upon Freud's work with the symbolic significance of nonverbal communication, projective analysis deals with the externalization of inner symbolic images related to feelings and motives. Kris (1952) also took a Freudian view of art and discussed it as a communication between the artist's id and ego through the projection of an inner image. Jung (1968) encouraged symbolic art expression in psychotherapy by interpreting the personal and collective unconscious expressed within it. He emphasized the importance of images or universal archetypes in the form utilized in the therapeutic process. Holt (1964) expressed an interest in the communicative power of images at a nonverbal level. Kellogg (1970) examined art

from a developmental perspective. She analyzed the line formations of children's drawings according to categories which include scribbles, patterns, and diagrams, and combines aggregates, suns, mandalas, and humans.

Through psychodynamic investigation, commonalities in the artwork of children and adults have been noted. Koppitz (1968) researched the Human Figure Drawings (HFD) of five- to twelve-year-old children to assess their mental maturity and to test through projection their attitudes and emotional concerns. Burns and Kaufman (1970) analyzed Human Figure Drawings and Kinetic Family Drawings. Criteria for the former included shading, facial expressions, exaggerated body parts, size, and pencil pressure. In the latter, styles and actions were examined. Di Leo (1970, 1973, 1983) discussed the inner world of children through their artistic impressions. He focused on drawings as projective techniques to indicate emotional disorders and various aspects of family relationships. He summarized two stages in the graphic activity of children: the kinesthetic or scribbling stage, and the later representational stage.

Several authors have presented views on the value of art analysis for personality assessment and psychotherapy. Methods of personality analysis using validated interpretation of artwork were developed by Di Leo (1983), Hammer (1980), Jolles (1952, 1971), Koppitz (1968, 1983), and Machover (1949).

Personality dynamics are revealed by the manner in which a child draws human expressions and posture (Hammer, 1980; Schmidl-Waehner, 1942). Machover (1949) analyzed the art of emotionally disturbed adults and isolated the graphic expression of various moods and tensions.

The art of specific groups of traumatized children has been assessed. Human figures drawn by sexually abused children (Kelly, 1984; Stember, 1980) and by

children from violent homes (Wohl & Kaufman, 1985) are hypothesized to reflect poor self-image and low self-esteem. Burgess, McCausland, and Wolbert (1981) state that the assessment of children's drawings could identify victims of sexual abuse. Bender (1952) found that children with physical defects will draw those defects in their Human Figure Drawings. Older children, however, inhibit such details and may fully clothe a body in order to hide a particular defect.

Toler and Toler (1955) investigated a child's self-concept by differentiating the emotional indicators in the Human Figure Drawings of poorly adjusted children and those of well-adjusted children. They found that certain personality dimensions were associated with popularity and rejection. For popular children, greater emphasis was focused upon emotional stability, extroversion, identification with others of the same sex, less frequent depression and anxiety, and spontaneity and intelligence. Specific art indicators such as the size, placement, and proportion of the drawings were noted. Toler and Toler examined detail integration, clothing, gender, line quality, shading, movement, facial expression, omissions, and distortions in the Human Figure Drawing.

Some psychotherapists have studied the effectiveness of art within a therapeutic setting. Vaccaro (1973) stated that an interpretation of the symbols of adult art may reveal a regressed state whereby an impairment of reality occurs. There is a return to infantile preoccupation and there may be a slight memory lapse of past significant objects, persons, situations, and emotional and psychosexual development. Two subjects who had been sexually assaulted were age regressed under hypnoanalysis and various drawings were elicited from them (Lemmon, 1984). Their art was analyzed as to colors, strokes, symbols, position of the drawings, mutilation of the subjects, size of the drawings, and amount

of paper used. The subjects who experienced resistance to art therapy had difficulty selecting the appropriate colour, selecting various strokes, and expressing various emotions. Landgarten (1981) utilized the technique of art assessment and art therapy with the family. She provided a systematic framework for discussing self-mastery and empowering aspects of the artwork.

An Alzheimer patient, age 58, was assessed by Wald (1984). Her artwork exhibited severe regression and intrapsychic reactions to her degenerative illness. The role of regression in the treatment of depression has been studied (Mitchell, 1984). A hospitalized female subject used artwork as her therapist led her through a guided imagery visualization so she could imagine a childhood scene. Her regression to the past event was controlled and emotional growth was facilitated by art therapy. Melcer (1983) stated that the effectiveness of art therapy is that it provides a structure for coping with terminal illness. As the terminally-ill patients deal with unresolved past issues expressed through their art, they become less depressed. An art therapy model developed for female incest victims (Carozza, Phyllis, & Heirsteiner, 1982) utilizes five therapeutic stages: gathering, self-disclosure, regression, reconstruction, and ending.

Wittels (1982) studied symbols in the drawing of 32 psychotic patients who were asked to draw a place from their memories or imagination, to do a family drawing, and to draw a subject of choice. The subjects drew body of water images such as an ocean or lake as a recurring metaphor of expression. Fink (1973) presented the detailed case of an artist patient through artwork samples exhibiting indicators of regression, fragmentation, volatility, disorganization, and conflict. Through art therapy, the subject moved from psychopathology to personality integration.

Exner (1962) compared the Human Figure Drawings of psychoneurotic subjects, subjects with character disturbances, normal subjects, and subjects experiencing experimentally induced fear. The Human Figure drawings of psychoneurotic and character disturbed subjects were different from those for the other two groups. The significant variables which differentiated the disturbed groups from each other as well as from the other two groups were shading (which indicated the focal point of anxiety), line pressure, sketchiness, implied movement, the use of the profile, and the figure holding an object.

Handler (1967, 1984) studied the effects of stress on drawings. Stress conditions were characterized by both constricted and expanded drawings. Constricted drawings had heavier lines, mechanical breaks in the lines, reduced sketchiness, detached or semidetached body parts, and decreased size. In response to stress, the subject expressed rigidity in constricted drawings (Handler & Reyer, 1964). In expanded drawings, there is more diffusion of body boundaries; vagueness of body parts; sketchy, loosely bound lines; light lines; and increased size. Handler and Reyer (1965) found that within the artwork of stressed subjects there were statistically significant increases in the variables of omission, distortion, detail loss, line pressure increase, heavy lines, size increase and decrease, and head and trunk simplification.

In order to assess the H-T-P drawings of older children, it is important to note that children's art changes as the child matures emotionally and physically. Generally art begins with random scribbles and progresses to artwork which is detailed, visual, or subjective. Lowenfeld (1970) described how art becomes a child's language of thought. From approximately two to four years of age, the child is in the Scribbling Stage and draws random marks. As the child releases

muscular activity through various strokes on paper, scribbles in the form of circles, zig-zag lines, and loops occur (Michael-Smith & Morgenstern, 1958). By three years of age, the child draws various lines and circles. At age four, the child's art becomes more organized and related to visual objects.

At the Preschematic Stage, approximately ages four to seven years, the egocentric, flexible child attempts to utilize skills through various representations such as figure drawings or objects within the environment. Circles are used to represent key figures and lines are often used for appendages. Hair consists of spiral lines and facial features become differentiated. Drawings are formalized, stereotypical, and conventional (Michael-Smith & Morgenstern, 1958). Due to developmental weakness, the child creates drawings that are restricted, oversized, and asymmetrical. As the child matures, drawings become more representational. The child relies on memory, awareness of part-whole relationships, and proper visual-motor coordination.

At approximately seven to nine years of age, the Schematic Stage occurs. The child develops a concept of forms, space, and colour and proceeds to organize the objects in a straight line with a base line in the drawings. Lowenfeld (1970) referred to the ages of nine to twelve as the Stage of Dawning Realism or the Gang Age, where peers are extremely important. Drawings are still symbolic representations; however, greater detailing is apparent with a smaller size and a more scattered placement of objects. In the Pseudo-Naturalistic Stage, at ages eleven or twelve years, the child begins to utilize the concept of perspective in drawings. The child shows evidence of reasoning, great detail, awareness of sexual details, and more colour.

During the Period of Decision (Lowenfeld, 1970) adolescents, age twelve to seventeen years, may show an increased interest in artistic expression or they may draw stereotypical, repetitive drawings. For some adolescents, art may either lose significance or have a purposeful perspective.

According to Lowenfeld (1964), the crisis of adolescence is reflected by various characteristics in art. These specific characteristics include the qualities of the human figure; uses of space, colour, and design; and the content. Adolescent art tends to be naturalistic in its approach, involving themes and elements from nature. Some art is visual; some is haptic and subjective in quality. The former emphasizes appearance and perspective. Light, shadow, and posing are apparent. Visual art is composed of naturalism and objectivity. The haptic mode of art emphasizes subjectivity, inner feelings, and specific expression of character types. Space is characterized through perspective, smaller distant objects, mood, three-dimensional quality, light and shadow, and the horizontal line. For the haptic artist, the creation symbolizes emotional expression and self-value. Colour can be concrete in relation to the various environmental shades and atmosphere of the artistic creation. Colour can also be subjective and have personal significance.

B. Emotional Indicators in H-T-P Analysis

Emotional indicators in artwork refer to the reflection of anxieties, concerns, and attitudes. According to Koppitz (1968), such emotional indicators have clinical validity and differentiate the Human Figure Drawings of children with and children without emotional problems. Koppitz stated that these emotional signs are evident on less than 16% of all HFD drawings by the normal population and are not related to age or maturation.

The H-T-P projective device, which utilizes a free-hand drawing of a House, Tree, and Person in a noverbal and creative manner, can be described as a psychological self-portrait (Buck, 1966). Each drawing elicits conscious and unconscious yearning. The House drawing symbolizes an association with the home and interfamilial relationships within the home. The Tree is associated with the individual's role and his/her ability to gain satisfaction from the environment. The Tree also symbolizes body image and self-concept (Schilder, 1950). It seems that the Tree reaches a more primitive, unconscious part of the personality (Hammer, 1958). Clinically, secretive feelings are more easily projected onto the Tree (Hammer, 1958). The Person drawing relates all emotional experiences of the child to the child's self-perception, to his/her concept of the ideal self, and his/her view of significant others. Information may be inferred from the Person drawing about the child's developmental level. The clinical usefulness of the House-Tree-Person drawings in tapping the personality and past, present, and future psychological experience has been intensively investigated (Bellack, 1950; Buck, 1966; Hammer, 1958; Levy, 1950; Machover, 1949). Garai (1973) discussed the H-T-P test as an effective diagnostic tool for problem areas of sexuality and personal identity. He stated that art therapy assists individuals in moving from survival identity to growth identity. The former refers to more elaborate regressive, defensive structures while the latter refers to the genuine expression of trusting, self-assured autonomous feelings.

During the course of research in the H-T-P projective technique, Hammer (1953) compared the H-T-P's of black children and white children in support of the higher frustration-aggression hypothesis as applied to the black population. Hammer stated that frustration involves the blocking of a person's drives, motives,

or needs. This type of anxiety may be the catalyst for aggressive impulses. He found that the aggression and hostility ratings of white school children were lower than those of black children. There was a high level of inter-rater reliability in assessing the drawings.

Another study by Hammer (1964) compared the H-T-P's of rapists and pedophiles and discusses the pedophiles' regressive flight into immaturity. The female Person drawing was much older than the male Person and the stated age for the Tree was much younger than the stated age of the Tree drawn by the rapists. According to Hammer, this indicates that a pedophile's fixation or his regression to a previous childhood level of development led the pedophile to seek young sex objects who were the equivalent to his psychosexual level or adaptation.

Hammer (1958) discussed the foundation of projective art interpretation which includes psychoanalytic and mythical use of symbols found in the unconscious world of dreams and fantasy. He focused on variables which expressed the emotional and ideational experiences of the artist. He stated that the H-T-P is a projective technique that investigates emotional and ideational experiences. He also stated that in clinical practice, psychopathological symptoms become clear within a framework of symbolism revealed through a patient's associations; correlations can be made at various intervals during the course of a patient's therapy. Hammer (1958) and Machover (1949) further stated that there is internal consistency between separate drawings drawn throughout therapy, between drawings and dreams, between drawings and subject history, and between drawings and behaviors. As positive behavioral changes are noted in psychotherapy, concomitant changes are noted in drawings as reflected through fewer distorted images.

The H-T-P projective technique has been utilized within a variety of settings. Jolles (1969) examined the H-T-P within a school setting. The H-T-P data provided information about the child's aggressive tendencies from environmental pressures, family dynamics, and psychological problems. Maxwell (1969) used the H-T-P technique with elementary school children who were underachieving. Non-achievement was related to a number of emotional difficulties. Regressive qualities were noted in the pictures of children who were exhibiting feelings of insecurity, helplessness, and turmoil. They depicted a return to infantile dependency (Maxwell, 1969) and a regression to earlier stages of development. They were also characterized by elements of miniature size, helpless posture, and the infantile characteristics of the figure drawing. Landisberg (1969) utilized the H-T-P in a mental health clinic for children. She presented two case examples which indicate the wide scope of clinical issues elaborated upon by the H-T-P in a diagnostic assessment. Both subjects revcaled withdrawal, a degree of primitiveness, and regressive tendencies within their drawings.

Meyer, Brown, and Levine (1955) noted contextual stress in the H-T-P's of preoperative and postoperative patients. Regressive features were noted in the preoperative drawings. They reported an unusually large contrast between the two sets of drawings. Since drawings show a great deal of consistency over time (Machover, 1949), these findings suggest extreme anxiety within the subjects. Illness was often graphically expressed in the preoperative House drawing. The House drawing tended to be considered abstract and thus a safer vehicle for expression. There was also a wide discrepancy between the assessment of the artwork and the clinical interview. The artwork of the subjects in the preoperative state suggested greater stress and pathology than the affect presented within

the interview. Some of the emotional art indicators in the H-T-P involved simplistic, windowless homes; frail-looking trees with vague, fragile-looking roots; and persons with extruded lips, transparent clothing, and simultaneous profile and full-face drawings. An element of anxiety was represented in the preoperative pictures; as a result, they often represented young children. Sometimes the H-T-P drawings broke from reality and portrayed fantasy-like images such as houses with human appendages, inappropriately coloured trees, or simultaneous profile and full-face drawings as well as distorted faces. Postoperative drawings did not exhibit regressive qualities. The conclusion drawn was that anxiety and imminent danger might elicit regressive responses in artwork. Regression in abstract art was also noted by Schilder and Levine (1942). In the art of schizophrenic children, asymmetry of form and a primitive use of space were exhibited.

Hammer (1986) analyzed a set of H-T-P drawings to describe drives, defenses, adaptations, and the structural features of conflict and defense. He examined line pressure (energy level) and stroke (long strokes indicated controlled behaviour and short strokes suggested more impulsive behaviour). According to Hammer, when children draw rigid, detailed, and repetitive drawings the artwork may represent rigid, controlled, defensive attitudes. Drawings that are asymmetrical indicate equivalent feelings of personality imbalance, poor integration, and the possibility of aggression. According to Hammer, placement of drawings to the right of the midpoint on the page indicates more stable controlled behaviour; drawings to the left indicate impulsivity, a need for immediate satisfaction, and aggression. Dissociation, or the incongruity between the drawing and verbal description, can give a clue to an exaggerated feeling such as rage.

It is relevant to expand further upon the quality of H-T-P drawings produced by disturbed groups of subjects. Subjects experiencing moderate conflict draw pictures that are uneven in quality with several erasures or exaggerated parts (Hammer, 1969). Changes in line pressure are noted, along with an excessive amount of shading, detailing, and colouring. Subjects experiencing extreme conflict produce distorted drawings with distinctive characteristics. Double perspective and transparency in drawings may be evident. A House placed above the baseline reflects a loss of reality; a House consisting only of a roof suggests an excessive fantasy state; a House with the end cut off implies difficulty placing the self into the environment. If the House has no windows or doors, this indicates difficulty with sociability. The Tree drawings of highly conflicted individuals often have minimal branch size and a split trunk. A mutilated or dead Tree emphasizes the subject's hostility and depression. Broken and dead branches or scars on the trunk reflect a traumatic past. The Person drawing may have an absence of hair, a mask-like face, and a thick, rigid physique. Frequently the body and head are drawn in an opposite direction. A huge eye, absent eyes, or exaggerated ears may be evident. When clothing is omitted and sexual organs are accentuated, these reflect regressive tendencies. Any omission of the major body parts reflects weakness, helplessness, poor ego strength, and poor adaptability. Depression is noted in small drawings, light strokes, few details, and drawings low on the page. Based on the above discussion of the H-T-P art indicators, it is evident that the H-T-P is a sensitive and rich projective technique.

Pilot Research Study

Based on the literature reviewed, a research study examined emotional indicators of the artwork of incest victims (Rosen-Wollman, 1987). The aim

of this study was to compare the therapeutic artwork of incestual children within a clinical setting to a normal group of school children in order to identify categories of differences.

The clinical group consisted of 46 incest victims, ages five to twelve years. The normal group consisted of 46 children (20 boys and 26 girls) who were selected from grades one to six within an inner city Edmonton school.

Each subject was asked to draw H-T-P drawings. Nineteen colour items were also analyzed for each drawing. A total of 386 variables were rated on a scale of one to five by three raters. The results of this pilot study indicated that 21% of the total number of variables were statistically significant in the identification of differences in the art of the Clinical and Normal groups. This study supported the notion that how a child draws various forms represents the self-concept of the child. Based on the above results, it seemed appropriate to utilize the H-T-P projective analysis to study the artwork of other groups of disturbed and normal children.

On the basis of literature describing emotional disturbance and its effect on art, as well as the analysis of the H-T-P projective technique, the following question was proposed: Will the quality of art as evidenced through H-T-P drawings differ significantly between a group of Disturbed adolescents and a group of Normal adolescents?

H-T-P Evaluation Considerations: Validity and Reliability of the H-T-P and Scoring Technique

Projective testing sits in the middle of an artistic-empirical predicament. This problem arises from the difficulty of assessing projective data statistically as opposed to qualitatively. Projective analysis does not follow formalized procedures for test construction and standardization.

In projective testing, many variables are assessed. Responses may have several origins which include the perception of several variables as well as the process of the response (Ainsworth, 1951; Hammer, 1958). Other problems include clear criteria when scoring projective tests. If criterion variables are applied to diagnosed clinical cases, the diagnosis may be based on ambiguous, inappropriate data (Brown, 1975).

In a study investigating the Draw A Person (DAP) technique, Lehner-Gunderson (1952) found that there was a high agreement between raters on graphic traits. Test-retest reliability was found to be lower than inter-rater reliability. This study suggests that graphic traits exhibit a tendency toward remaining constant. The results of past validation studies of the H-T-P note variations in the artistic qualities of various subjects' artwork. Jolles (1952) found that children tended to draw their own gender when drawing the human figure drawings. An age variable as well as a gender variable affected the gender of the drawing. Several validation studies correlated clusters of artistic traits with the artwork of a specific group of subjects characterized by specific physical qualities, functional disorders, or cultural differences. Kotkov and Goodman (1953) found that specific signs on the DAP test identified the obese subject from the non-obese. Certain identifying art markers differentiated the sexually abused from the normal children (Rosen-Wollman, 1987).

Generally, in terms of the validity of judges' ratings of the H-T-P, it seems evident that the clarity of the operationalized definition of the art indicator be a priority. Specific characteristics described on the rating scale must also be operationally defined in order to elevate the reliability and validity of the qualitative measures.

C. Definition of Relevant H-T-P Measures

Buck utilized three basic concepts--the detail, proportion, and perspective--in devising the H-T-P. He defined "detail" as a discrete identifiable part of the whole and as a measure of a subject's ability to judge elements of daily life in a conventional fashion. "Proportion" refers to the spatial relationships of elements making up each whole and the relationship of each whole in symbolic time and space to other objects in the environment. "Perspective" is labelled functional insight. Developmental factors need to be considered when assessing perspective, as there are qualitative changes when a person is experiencing anxiety, emotional stress, and pressure.

The House

The House drawing represents conscious and unconscious feelings associated with the home and intimate relationships. The House is a reaction to family members and the family. The overall impression or theme is the first step in the analysis. The House could represent the adolescent's perception of the parental home, the body, or the womb (Hammer, 1958).

As Buck (1966) notes, Relevant Details of the House are the integral parts of the whole drawing. They include all of the primary and basic details of the picture such as the door, windows, walls, and roof. Irrelevant Details are details that are not an essential part of the House and could include details such as the sun, moon, and clouds. Proportion of the House refers to the size or height, width or area of a detail that is assessed in relationship to the size of another detail. For example, the size of a window in the House can be compared to the size of the wall of the House. Perspective involves the placement of one or more details such as a window in the wall of the House in a whole drawing. Per-

spective also refers to the presentation of a whole drawing such as the perception of the front and side of a house. A House can be placed as a whole figure in one of the quadrants of the page. For example, a House could be drawn on the lower margin and left quadrant of a page.

The Tree

The Tree drawing represents an individual seeking satisfaction from the environment (Buck, 1966). Bolander (1977) views the Tree as having instinctual, unconscious meaning. The Tree represents the historical life process stemming from the past, to the present, and to future aspirations. The analysis of relevant details of the Tree combines Buck's assessment of the Tree as well as Bolander's perspective of the Tree.

The Relevant Details of a tree involve the integral parts of the whole drawing such as the primary and basic details of the picture (Buck, 1966). The latter includes details such as the trunk, bark, roots, and branches. Irrelevant Details include those details that are not an essential part of the Tree. Nearby Details would involve the groundline, shadow, birds and animals, persons, and other trees. Distant Details could include the sun, clouds, or rain. The proportion of the Tree involves the height and width of the Tree drawing such as the width of the branch compared to the width of the trunk, the width of the foliage compared to the width of the trunk, or the height of the trunk compared to the height of the foliage. The perspective of the Tree drawing refers to the placement of one or more details of a given whole such as in a one-dimensional or two-dimensional drawing where a branch appears broken. The Tree may be presented as a given whole and drawn in the lower quadrant of the page and flat on the ground.

Finally, the perspective of the Tree can refer to the placement of a whole figure, whereby the Tree could be placed with a cut-off crown in the upper left quadrant.

Bolander (1977) discusses aspects of the Tree drawing with great detail. Her discussion of Tree zones describes the left quadrant as "feminine," symbolizing emotional imbalance and preoccupation with maternal influence. The right quadrant or the "masculine" side symbolizes maternal deprivation with a strong paternal influence. Placement at the top of the page symbolizes lack of reality-grounding and impracticality. Placement at the bottom of the page symbolizes ego inadequacy and desire for immediate fulfillment. A drawing done solely in the upper left quadrant symbolizes passivity, creativity, and the influence of maternal nurturance. Conversely, a drawing in the lower left quadrant indicates depression, emotional rigidity, distorted self-image, and the influence of a powerful maternal figure.

The Person

Machover (1949) devised a creative and detailed analysis of the human figure which warrants elaboration in the context of this study. In interpreting the Person drawing, content is analyzed in conjunction with structural aspects of the drawing. Structural qualities refers to the variety and refinement of details of the Person. A Person drawing elicits a theme which refers to associations attached to it. The figure could be symbolic of a self-image, an ideal image, or a figure stereotype. Action or movement through posing, walking, fighting, or running symbolizes many themes. Some subjects draw in an erratic fashion, and the drawings reflect an impulsive sequence of events. The symmetry of the Person drawing is relevant as it involves the artistic balance of the figure. Extremes of the drawing involve either rigidity (over-symmetrical) or extreme

disturbance of symmetry (asymmetrical). Machover (1949) also spoke of size and placement. When the Person is situated to the right of the page, the subject is interested in the environment. When the drawing is placed to the left, the subject could be self-obsessed. If the Person drawing is high on the page, the subject could be optimistic. If the Person is low on the page, the subject could be depressed. The size and placement of the figure may be less subject to conscious control than is the content of the drawing.

The stance of a Person drawing can illuminate aspects of the artist's personality. The way the legs are placed indicates the mood and communication of the figure. If the Person's legs are floating, standing wide apart, or slightly together, the person could be passive, aggressive, or repressed. The Person perspective could be Full-Face or Profile. The former symbolizes a greater tendency to exhibit the body while the latter, more prevalent in adolescent boys, indicates a higher level of defensiveness.

The type of line of the Person drawing could be faint or very heavy. The line could be solid, broken, or reinforced. The line symbolizes a subject's barrier of defensiveness and extent of volatility.

The Relevant Details of the Person drawing are the indispensable parts of the whole drawing (Buck, 1966). These include the face and facial features, hair, shoulders, neck, and limbs. Irrelevant Details are those which are not indispensable, and include Nearby Irrelevant Details such as a pipe or cane and Distant Irrelevant Details such as the sun or clouds.

The proportion of the Person relates to the size of the whole drawing to the page, such as an overly large, full figure compared to the size of the page. An intra-whole assessment of the Person drawing refers to an atypical size rela-

tionship of a specific detail to the whole drawing. An example would be disproportionately large shoulders indicating an obsessional need for power. In order to assess perspective or spatial relationships in the Person drawing, the relationship between the drawing page and placement and size of the Person is made. For example, a drawing may be placed on the horizontal or vertical axis of the page. A drawing could be in one of four quadrants on the page. A drawing may also be focused towards one of the four margins of the page. Whole-to-viewer relationship of the Person drawing involves the plane relationship of the whole to the viewer which could include a Bird's-Eye View or a Worm's-Eye View of a figure (Buck, 1966). Distance could be indicated by the Person figure. The position of the figure could be Full-Face or Profile. The figure could have tight arms held close to the body or could be on tiptoe. The intra-whole perspective concerns an assessment of detail to detail, or details to details, as well as details to the whole drawing. Examples are evident in a disproportionately small head or overly large shoulders.

D. Summary

Through the artwork of individuals, the examiner learns about the subject's personality and behaviours. These indicators describe anxieties and attitudes unique to each individual. As the literature review revealed, the H-T-P test has been used as a therapeutic projective technique in comparison studies of specific groups of subjects. Finally, this section defined relevant H-T-P measures as initially outlined by Buck (1966). Specific details, proportion, and the perspective of the H-T-P drawings were discussed.

Based on the review of literature and the prior study by the author, the following questions related to H-T-P analysis were warranted in need of testing:

1. Is there a significant contrast between the H-T-P art indicators of a Disturbed group of children and those of a Normal group of children?

2. What are the major variables which are found to differentiate the artwork of Disturbed and Normal groups of children?

3. To what degree will these major variables differentiate a second group of Disturbed and Normal children?

III. METHOD

To evaluate the issues illuminated in the literature review, a research study was developed to contrast the artwork of a Disturbed group with the artwork of a Normal group. It was envisioned that by comparing the two groups using a large number of descriptors, certain descriptors which differentiated group membership would arise. The select variables could then be used to form a "function" that would help differentiate Disturbed and Normal populations. This comparison study would then provide a more accurate scoring method for the House-Tree-Person (H-T-P) drawings when applied to a Disturbed and Normal population of children.

The following section describes specific considerations of this two-stage study: the population, the design, the collection of data, a description of the dependent measures, the training of raters, and the research procedure.

A. The Population

From a total of 128 subjects, 34 (53.1%) Disturbed subjects were male while 30 (46.9%) were female (Table 1). In the Disturbed group, the greatest number of subjects were in the 14-year-old category (34.4%). In the Normal group, 18 (28.1%) were male and 46 (71.9%) were female. The greatest number of subjects were in the 12 and 16-year-old categories (18.8%). In Stages One and Two, the comparison group of Normal subjects was selected from a junior high school and from a senior high school.

The subjects for Stage One of the study consisted of a group of 32 Disturbed and 32 Normal subjects between the ages of 12 and 18 years. All of the 32 Disturbed subjects in Stage One of this study were considered emotionally disturbed.

Table 1

Gender and Age Distribution of Subjects (Normal and Disturbed Groups)

Gender Distribution

	Normal		Disturbed	
Gender	Frequency	Percent	Frequency	Percent
Male	18	28.1	34	53.1
Female	46	78.9	30	46.9
Total	64	100.0	64	100.0

Age Distribution

	Normal	Disturbed					
Age	Number (Percentage)	Medium Security Residence	Evening Program	Minimum Security Residence	Day Program	Private Practice	Total %
12	12 (18.8%)	-	5 (7.8%)	-	-	-	7.8
13	7 (10.9%)	1 (1.6%)	5 (7.8%)	4 (6.3%)	2 (3.1%)	-	18.8
14	10 (15.6%)	8 (12.5%)	5 (7.8%)	5 (7.8%)	2 (3.1%)	2 (3.1%)	34.4
15	6 (9.4%)	5 (7.8%)	3 (4.7%)	2 (3.1%)	2 (3.1%)	-	18.8
16	12 (18.8%)	2 (3.1%)	3 (4.7%)	3 (4.7%)	-	2 (3.1%)	15.6
17	10 (15.6%)	1 (1.6%)	1 (1.6%)	-	1 (1.6%)	-	4.7
18	7 (10.9%)	-	-	-	-	-	-
Total	64 (100.0%)	17 (26.6%)	22 (34.4%)	14 (21.9%)	7 (10.9%)	4 (6.3%)	100.0

There were more males than females. All of the subjects were involved in psychiatric treatment facilities. Most of the subjects lived within a residential psychiatric setting. Some subjects spent the day in an adolescent day treatment program; other subjects attended school or had a full-time day job and were involved with an adolescent evening treatment program. In the group of 32 Normal subjects, there were a greater number of females than males.

In Stage Two of the study, the subjects consisted of 32 Disturbed and 32 Normal subjects between the ages of 12 and 18 years. In the Disturbed group there were more females than males. In the group of 32 Normal subjects, there were a greater number of females than males.

Most of the Disturbed subjects, as in Stage One, lived within a residential psychiatric setting. Subjects in the study were participants in either an adolescent day or evening treatment program. A few adolescents were selected from a psychological private practice.

For Stages One and Two, subject disorders according to DSM-III R criteria (American Psychiatric Association, 1987) were classified as attention-deficit hyperactivity difficulties, conduct disorders, mood disorders (manic and depressive states), psychoactive substance-use disorders, schizophrenia, and delusional disorders.

B. Design of Study

A brief verbal and written description of the study was given to the subjects and their parents or guardians. An explanation of the drawing requirements included a brief description of the freehand H-T-P drawings (Appendix A). The children were required to draw pencil drawings of a House, Tree, and Person on three sheets of paper. After the completion of the three drawings, each subject

was required to write answers to the post-drawing inquiry (Janzen, 1986) (Appendix E). This inquiry consisted of 12 questions. Four questions were related to the House, three questions were related to the Tree, and five questions were related to the Person. The subject wrote answers which described and interpreted his/her drawings. An explanation was given involving the anonymity of the subjects' pictures and the voluntary nature of the subjects' participation.

A comparison group design was used. The author revised Buck's (1948) scoring manual (Appendix B) by first creating a scoring guide consisting of 393 items including the post-drawing inquiry. The guide was reorganized and was comprised of 16 major features and Relevant and Irrelevant Details, common to each House, Tree, and Person drawing. Secondly, a modified, more practical version of the H-T-P guide was derived from the initial one.

In Stage One of the study, the artwork of the Disturbed group was contrasted to the artwork of the Normal group using 393 characteristics in order to see on which variables the artwork differed. In Stage Two of the study, a selection of major variables on which the subjects' artwork differed in Stage One was used to differentiate a second set of Disturbed and Normal groups.

C. Collection of Data

All subjects were provided with three 8½ x 11" sheets of white paper for the H-T-P drawings. The subjects were first instructed to list age, gender, and grade in the lower right-hand corner of the back of the sheets of paper. The following instructions were then given:

"Take one of these pencils please. I want you to draw me as good a picture of a house (tree, or person) as you can. You may draw any kind of house that you wish. You may erase as often as you wish." The same instructions were

repeated for the Tree and Person drawings. Subjects were instructed to draw in a freehand manner. For the Person drawing, they were directed to draw any kind of person except a cartoon figure or a stick figure. After subjects notified the investigator that their art was finished, they completed the shortened form of a post-drawing inquiry by writing their answers on a short questionnaire (Appendix E).

The drawings and inquiry information were collected and divided into four sets. Thirty-two Disturbed and 32 Normal group drawings were included in each of the two stages of the study. The significant variables which differentiated the H-T-P drawings of the Disturbed and Normal groups from Stage One were then applied to the remaining 64 H-T-P drawings from Stage Two.

D. Description of the Dependent Measures

In order to assess the subjects' artwork, there were 111 major measures within a total of 393 scored items on the H-T-P test and the post-drawing inquiry (Appendix C).

Based on the research of various investigators (Bolander, 1977; Buck, 1948; Hammer, 1958; Handler & Reyher, 1965; Koppitz, 1968; Machover, 1949), a revised scoring guide for the H-T-P projective test was developed (Appendix D).

The scoring guide consisted of 16 primary features common to each House-Tree-Person drawing. Relevant and Irrelevant Details were also analyzed for each H-T-P drawing. The 16 primary features included the features of Proportion, Symmetry, Dimension, Shading, Perspective, Margin Deviance, View, Transparency, Relevant Details, Irrelevant Details, Complexity of Detail, Erasure, Reinforcement, Shape, Movement, and Predominant Line Quality.

The 16 primary features in the revised scoring guide are defined below. Numerals in parentheses coincide with numerals in the scoring guide.

1. Proportion. According to Buck (1966), the assessment of proportion relates to the comparison of the size of a part of the drawing to the whole drawing. In this current research, the size of the whole drawing was rated on a scale from 1 (small) to 5 (large).

2. Symmetry. Symmetry refers to a balance of the proportion of the parts of a drawing. In this current study, a "symmetrical" (2) drawing was approximately divisible into two or more parts of the same shape and size. An "asymmetrical" drawing (1) was imbalanced and distorted in shape. Extreme preoccupation with graphic symmetry and balance produced a rigid, immobile, stereotyped, "over-symmetrical" figure (3).

3. Dimension/Presentation. One-dimension (1), two-dimension (2), or three-dimension (3) presentations are possible. One-dimension presentation refers to a linear marking. It is rare for the House drawing and is possible for the Tree and Person drawings. Two-dimension presentation refers to a figure depicted with length and width. Three-dimension presentation involves a figure characterized by length, width, and depth.

4. Shading. Shading is a method of obscuring the full, underlying parts of the drawing or specific parts of the graphic representation (Di Leo, 1983). Partial shading (2) refers to a few lines on a drawing which imply items such as roof tile on a House, bark on a Tree, or clothing on a Person. Full shading (3) refers to the shading of an entire part of a drawing (e.g., the roof of the House) or the whole drawing.

5. Perspective. (A) Horizontal Axis: The perspective of the horizontal axis places the drawing at either the midpoint of the page (2) or to the left (1) or right of the midpoint (3). (B) Vertical Placement: Spatial relationship is also noted through the placement of the drawing on the vertical axis of the page in one of four quadrants; quadrant four (4) is the top quarter of the page and quadrant one (1) is the lowest.

6. Margin Deviance. Buck (1966) described four deviant uses of the margin. A Paper-Chopped margin refers to the boundary of a drawing cut by one or more page margins. The Paper-Topped margin refers to a drawing that touches the upper margin of the page but does not extend beyond it. The Paper-Sided margin refers to one or more parts of the whole drawing that extends to the lateral margin but not beyond it. The Paper-Based margin describes the bottom margin of the page as the baseline of the whole drawing.

7. View. (A) Bird's-Eye (1). The viewer looks upon the drawing as if the whole drawing was in a deep valley and the viewer was on a hill above the drawing (Buck, 1966). (B) Worm's-Eye (2). The viewer looks upon the drawing as if situated below it, looking up at the whole drawing (Buck, 1966). (C) Head-On (3). The drawing is on the same plane or level as the viewer.

8. Transparency. The drawing has an X-ray quality, revealing what is known to be present regardless of actual visibility. Examples include figures being visible through walls or body parts being visible through clothing.

9. Relevant Details. These are the essential, minimum items of a composite whole. Relevant Details of the House drawing are the roof(s), wall(s), door(s), and window(s). Relevant Details of the Tree drawing are the trunk, bark, roots, baseline, crown: branches, branch system, foliage, branch system baseline, and

branch endings. Relevant Details of the Person drawing are the head, eyes, nose, mouth, lips, chin, ears, hair, eyebrows, neck, arms, hands, fingers, legs, feet, and clothing.

10. Irrelevant Details. These are secondary, basic details which enrich a drawing but are not an integral part of it (Buck, 1966). Irrelevant Details of the House drawing are of two types. Nearby Irrelevant Details include porch, steps, chimney(s), smoke, storey(s), walkway(s), shrubbery, tree(s), flower(s), facing(s), groundline, and shadow(s). Degrading details include, among others, a sun, mountains, or snow. Irrelevant Details of the Tree drawing include grass, type of tree (e.g., a fruit tree), and specials signs (such as objects hanging from the tree, e.g., a swing). Irrelevant details of the Person drawing include joints (e.g., elbow, knee), genitalia (realistic or connotative graphics), navel, nipples, body hair, teeth, moustache, beard, buttons, belt(s), jewellery, nail polish, facial makeup, and special symbols.

11. Complexity of Detail. A drawing consisting of detailed content and drawn with good proportional relationships is considered to have complex detail (2). Drawings with relevant details omitted and with poor proportional relationships are considered to have simple detail (1).

12. Erasure. This is the alteration of any parts of a drawing through the use of an eraser.

13. Reinforcement. When the thickness of a line increases on the whole or part(s) of the drawing, reinforcement is indicated. These darkened lines are caused by an increase in pencil pressure and are assessed from low pressure (2) to moderate (average) (3) to high pressure (4).

14. Shape. Any shape of the House, Tree, or Person that is traditional in form would be labelled as conventional (1). Novel or uncommon shapes would be labelled as unconventional (2).

15. Movement. This can be noted in depictions of swaying or running motions or through illusions of movement.

16. Predominant Line Quality. This refers to the line pressure used by the subject. Lines can be faint or heavy. Lines may also be either well-controlled and continuous or interrupted. Continuous lines are coded faint (1) through extreme (5) force. Interrupted lines are coded faint (6) through extreme (8) force.

There is one secondary feature specific to the House drawing. Double Perspective refers to a House drawn with the main wall and both end walls visible simultaneously, with a straight baseline (Buck, 1966).

There are seven secondary features specific to the Person drawing.

1. Presentation of Figure. (A) Full Face: The full face or rearview of the Person is facing the viewer. (B) Profile: A side view is given of the Person's face. (C) Head Profile, Body Full Face: Person drawn with the face as seen from a side view but with the body full-view to the viewer. (D) Body Profile, Head Full Face: Person drawn with a full face view of the head to the viewer but with the body shown in side view.

2. Size. The dimension of the Person drawing was assessed from very small (less than five inches), small (less than seven inches), average (seven inches), to large (over nine inches).

3. Type of Figure. The gender of the Person is portrayed through details of the body and clothing. An androgynous label would be given to a Person drawing that does not indicate specific gender.

4. Omissions. These refer to specific parts of the Person that are excluded, such as hands and feet.

5. Delineation of Line Absence. This is an indication of an absence of drawn lines on areas such as sleeve cuffs, arm holes, neckline, beltline, and on pant cuffs or skirt hem.

6. Emphasis Lines. These are lines which emphasize body areas or create three-dimensional patterns such as pleats in a skirt.

7. Distortion. This refers to odd-shaped, malproportioned, or misrepresented body parts.

The shortened form of the post-drawing inquiry (Janzen, 1986) (Appendix D) consisted of 27 pertinent questions related to the House-Tree-Person drawings. The subjects had the opportunity to define, clarify, and interpret the drawings.

E. Training of the Raters

Three judges rated all of the dependent measures of the subjects' artwork. Two raters were unaware of the diagnostic categories of the subjects within the groups. All raters were graduate students. During six one-day sessions, the two judges were trained to identify each dependent measure described by the scoring guide. The raters independently indicated the presence of various characteristics of the drawings by recording their responses. These scores were rated according to specific criteria listed in the scoring guide and discussed during the six day training sessions. Trial ratings of responses to art indicators were made until a 90% level of agreement for each scored item was reached consistently by the judges.

F. Procedure

Stage One

1. For the first 64 sets of drawings from the Disturbed and Normal groups, each of the three judges rated every drawing according to the 393 items on the scoring guide.

2. In order to determine which items differentiated between the Disturbed and Normal groups, a chi-square analysis was carried out for each of the 393 items which consisted of dichotomous scores (0 = Normal, 1 = Disturbed).

3. Those items for which the chi-square was found to be statistically significant at p=.10 or less were retained for further analysis. In Stage Two, the drawings of a second group of Disturbed and Normal subjects were scored on the significant items.

4. The reliabilities were calculated by using the total percentage agreement scores from the raters for each item as well as the total percentage agreement scores for the 393 items.

5. A t-test was calculated between the Disturbed and Normal groups in the first analysis of 393 items for the first 64 subjects of Stage One in order to find a significant difference between the means of the Disturbed and Normal groups. In Stage Two a t-test was calculated between the Disturbed and Normal groups on the total score based on the sum of the 53 significant items in Stage One.

6. In order to determine the effects on the total mean score of the subject's age, gender, and institution by group membership, two-way analyses of variance were calculated.

Stage Two

1. For the second 64 sets of drawing from the Disturbed and Normal groups, each of the three judges rated every drawing according to the 53 significant items in Stage One.

2. Frequency tables were computed for the Disturbed and Normal groups from scores derived from the items found to be significant. Each group consisted of an equal number of Disturbed and Normal subjects (n = 64 D, 64 N). Specific scores from lowest to highest were listed in one column, and the number of subjects with the score appeared in the form of a frequency number in the second column. A cumulative percentage score was also present.

3. Fourfold tables were developed to calculate the percentage error. Based on these tables, the cut-off score that generated the smallest error rate was chosen. Some of the predictions in this study were correct (hits); some were incorrect (misses). Hits were either successful as True Positives or unsuccessful as True Negatives. Misses were either successful as False Positives or unsuccessful as False Negatives. By calculating hits and misses from the specific scores on the drawings, the proportion of individuals in the total sample who were correctly and incorrectly placed could be determined.

Those predictor variables with the lowest percentage error assisted in establishing a cut-off point for the artwork drawn by Disturbed and Normal subjects.

4. The "cell means" of all subjects in groups were put in table form.

G. Summary

The purpose of this study was to compare the H-T-P projective artwork of groups of Disturbed and Normal children. The two-part study involved selecting

significant variables from Stage One of the study and observing in Stage Two to what degree a second group of subjects could be successfully differentiated.

The results and a discussion of the research analysis are presented in Chapters IV and V.

IV. RESULTS AND DISCUSSION

In this chapter, information related to rater reliability will be discussed. Second, the results of the statistical analyses from Stage One and Stage Two of the study will be examined together with a discussion of the aforementioned relevant research statements of Chapter II.

The data collected during Stage One of the study, for the first group of 64 subjects, consisted of 393 items scored for each subject. There were 366 items related to three House, Tree, and Person drawings, and 27 items were responses to questions about the H-T-P drawings in the post-drawing inquiry. The data collected during Stage Two of the study, for a second group of 64 subjects, was based upon the statistically significant items found in Stage One. Three judges rated all of the drawings according to the items in the H-T-P Scoring Analysis Guide (Appendix B). The total percentage rater agreement was calculated.

The major statistical analysis used in Stage One of the study was a non-parametric chi-square which compared the frequency scores on each item for subjects from Disturbed and Normal groups. The chi-square test was done to examine the relationship between how a subject scored on a specific item and the subject's group membership. A decision was made to set the significance level of the chi-square at $p=.10$ in order to reduce the chance of excluding H-T-P items which could differentiate between Disturbed and Normal subjects.

A t-test was utilized to determine whether there was a significant difference between the H-T-P scores of the Disturbed and Normal groups. This difference was found to be significant at $p=.05$.

In order to determine whether there were differences between the Disturbed and Normal groups on the H-T-P scores, taking into account the variables of gender, age, and institution, three two-way analyses of variance were performed.

A. Inter-rater Reliability

Ratings by three judges were made for each of the 393 items, and a percentage rater agreement was calculated for each item. A comparison was made between judges one and two, one and three, and two and three; finally an overall rating was made from all the calculated percentages.

One judge, the author, was not blind to information about the subjects and art samples drawn by the Disturbed and Normal groups. The author was blind to the ratings of the other two judges. Two judges were blind to the classification of both subject groups and to the ratings of the others. Using the ratings of three judges assisted in elevating the reliability of the dependent measures. Because the third judge was not blind to information about the subjects and their artwork, rater bias could have occurred. It was therefore relevant that a high level of agreement should exist between judges one and two and the third judge.

In Stage One of the study, for the first group of 64 subjects, the total percentage rater agreement for the three judges was 98.9%. The highest percentage rater agreement occurred between judges one and two (99.4%). The total percentage rater agreement between judges one and three (the writer) was 98.8%; between judges two and three 98.4%. Therefore, there seemed to be no evident bias in judge three's ratings, as the percentage agreement occurred within one percent of the ratings of judges one and two.

In Stage Two of the study, for the second group of 64 subjects, the total percentage rater agreement for the three judges of the 53 items was 98.6%.

The highest percentage rater agreement occurred between judges one and two (98.9%). Rater agreement between judges one and three (the writer) was 98.8%; between judges two and three 98.1%. Such results indicate a high level of agreement among raters regarding several graphic traits. In comparison to other studies reviewed by Hammer (1958), it is evident that there was excellent inter-rater reliability for the graphic measures analyzed. High reliability for the H-T-P manual was the result of comprehensive rater training and specific, well-defined criteria. Each item in the manual represented a specific art indicator measured by the H-T-P test. The adequacy of the specific art indicator was confirmed by the high level of agreement among raters.

B. Research Results

In this comparison study, an analysis was done for the artwork of two groups of Disturbed and Normal subjects. The dependent variables were the art indexes on the H-T-P test and items on the post-drawing inquiry. The individual scores on each item of the 393-item scoring manual ranged from one to nine. The 53 variables consisted of dichotomous scores from zero (= Normal responses) to one (= Disturbed responses).

For the first group of 64 subjects in Stage One, 13.5% of the art variables were statistically significant at a level of p=.10 (Table 2). All chi-square results are presented in descending order of level of significance (Table 3).

Stage One of Research

The House drawing.

In Stage One of the study, 10 items related to the House drawing were considered statistically significant at a level less than or equal to p=.10 (Table 3). Window curtains and shutters were significantly less frequent in the drawings

Table 2

Total Percentage of Statistically Significant Items

Stage One (n = 32N, 32D)

Drawing	House	Tree	Person	PDI
Sig. Items	10	16	18	9
Total Items in Drawing	92	66	208	27
% of Items in Drawing	10.9	24.2	8.7	35.3
Total %		13.5 % (53/393)		

Stage Two (n = 32N, 32D)

Drawing	House	Tree	Person	PDI
Sig. Items	3	3	5	1
Total Items in Drawing	10	16	18	9
% of Items in Drawing	30	18.8	27.8	11.1
Total %		22.6 % (12/53)		

Table 3

Chi-Square: Emotional Indicators for Clinical Group on H-T-P (Dichotomous Score 0 to 1) from a Total of 393 Variables (Total: 52 Statistically Significant Variables)

(Level of Statistical Significance ($p < .10$))

Item		Chi-Square	p
The House Drawing:			
Window curtains, shutters	(59)	9.23	.002
Proportion of window	(47)	8.27	.004
Proportion of door	(41)	6.26	.01
Roof material	(27)	5.89	.02
Window locks, bars	(61)	5.77	.02
Ladder-like steps	(68)	4.65	.03
Shape of roof	(29)	3.47	.06
Symmetry of window	(48)	3.47	.06
Baseline for wall	(33)	2.96	.09
Degrading details	(89)	2.57	.10
The Tree Drawing:			
Baseline direction	(125)	13.90	.0002
Curved baseline	(126)	7.40	.01
Type of leaves	(138)	7.00	.01
Shading of Tree	(96)	6.26	.01
Branch system--baseline	(139)	5.06	.02
Shading of foliage	(137)	4.65	.03
Branch endings	(140)	4.34	.04
Type of Tree	(142)	4.34	.04
Foliage	(135)	4.08	.04
Dimension--foliage	(136)	4.08	.04
Bark	(121)	4.03	.05

(Table 3, Continued)

Item		Chi-Square	p
Shading of trunk	(116)	4.00	.05
Dimension--crown	(129)	3.95	.05
Movement	(111)	3.57	.06
Relevant details	(105)	3.57	.06
Paper-chopped margin	(99)	2.88	.09
The Person Drawing:			
Hair in specific places	(230)	22.65	.0000
Shading of hair	(231)	12.54	.0004
Shading of head/face	(327)	10.98	.001
Shading of head	(189)	9.65	.002
Shading of Person	(162)	9.60	.002
Distortion	(366)	9.35	.002
Areas of shading	(334)	8.31	.004
Size of mouth	(216)	6.26	.01
Omission--eyebrows	(357)	6.26	.01
Facial expression	(240)	5.81	.02
Eyes: no pupil	(201)	5.61	.02
Eyes: with pupil	(202)	5.61	.02
Eyebrows	(232)	5.08	.02
Genitals	(316)	4.60	.03
Irrelevant details of head	(191)	3.47	.06
Size of breasts	(285)	4.37	.06
Size of hands	(250)	3.27	.07
Delineation line absence (neckline)	(361)	3.27	.07
Post Drawing Inquiry:			
The House Drawing:			
Bedroom	(381)	12.87	.0003
Kitchen	(384)	4.48	.03
Distance	(391)	3.07	.08

(Table 3, Continued)

Item		Chi-Square	p
The Tree Drawing:			
Type	(373)	12.54	.0004
Branches	(376)	6.56	.01
Location of Tree	(374)	4.54	.03
Age	(372)	4.10	.04
The Person Drawing:			
Age	(368)	5.14	.02
Feeling	(371)	4.79	.03

of the Disturbed group. No windows or windows of an unusual size related to the intra-whole were evident significantly more often in the Disturbed group's drawings. In the artwork of the Disturbed group, it was noted that the size of the door compared to the whole House was often either smaller or larger than an average-sized door. There was either no roof material or it was in blocked form. Locks and bars were noted on the window drawings of the Disturbed group. In the drawings of the Disturbed group, steps were either absent or depicted in a ladder-like fashion without depth. The roof was most often drawn in an unconventional shape by the subjects of the Disturbed group. Windows were more frequently drawn asymmetrically in the drawings of the Disturbed group. The wall baseline was most often absent for the Disturbed group. Although degrading details were rare in drawings, they were most commonly noted in the drawings of the Disturbed group.

The Tree drawing.

In Stage One of this study, 16 items related to the Tree drawing were statistically significant at a level of p=.10 (Table 3). The artwork of the Disturbed group indicated a significantly greater number of absent tree groundlines. The baseline direction in the artwork of the Disturbed group was less often centered and more often in a right or left direction. Curved baselines were more frequent in the artwork of Disturbed subjects. If foliage consisted of either one or a few leaves or falling leaves, these characteristics were more frequently found in the drawings of the Disturbed group. Subjects of the Disturbed group more often drew the Tree with no evidence of shading. The branch system baseline was less often noted in the artwork of the Disturbed group. Foliage was less often shaded in the artwork of the Disturbed group. The Disturbed group often drew

branch endings that were either sawed off or broken, had fish hooks, were criss-crossed, spear-like, or had a wavy shape. Branch endings were least often noted as being covered by foliage or having branches completely hidden. The most frequent types of tree in the artwork of the Disturbed group were the winter tree, the willow tree, and the abstract deciduous tree. Foliage was more often absent in the drawings of the Disturbed group. When present, foliage was less frequent in the two-dimensional perspective. Tree bark was primarily found in the artwork of the Disturbed group. Subjects in the Disturbed group more often drew the tree trunk with no evidence of shading. Branches were often absent in the Trees of the Disturbed group. With regard to branch dimension, subjects from the Disturbed group more often drew branches in a one-dimensional fashion rather than in a two- or three-dimensional perspective. A significantly greater number of Tree drawings by the Disturbed group indicated graphic suggestion of movement. Fewer relevant details were noted in the Tree drawings of the Disturbed group. Margin deviance was noted in the paper-chopped drawings of the Disturbed group.

The Person drawing.

In Stage One of this study, 18 items related to the Person drawing were statistically significant at a level of p=.10 (Table 3). There was a less frequent occurrence of hair in specific places (such as head, chest, eyelashes, except eyebrows) in the drawings of the Disturbed group. Hair shading occurred less often in the drawings of the Disturbed group. Shading of the head and face was frequently omitted in the artwork of the Disturbed group. Head shading was more often omitted in the artwork of the Disturbed group. An unshaded Person drawing was more frequently noted in the figures drawn by the Disturbed group. Body

distortion in the Person drawing refers to unrealistically shaped parts of the body. Distortion was most often noted in one half or over one half of the Person drawings of the Disturbed group. Specific areas of the body were seldom shaded by the Disturbed group. The mouth was either absent or large or tiny in the drawing of the Disturbed group. Fewer drawings of eyebrows were noted by the subjects of the Disturbed group. Angry, sad, and fearful facial expressions were most often noted on the faces of drawings by the Disturbed group. Omission of the pupil in the eye most frequently occurred in the drawings of the Disturbed group. Although genitalia were rare in Person drawings, they appeared more frequently and were more often shaded in the artwork of the Disturbed group. With reference to the variable of a total of five or more irrelevant details, the Disturbed subjects tended to simplify their artwork and they drew fewer irrelevant head details. In contrast, one subject from the Disturbed group drew the head of the Person drawing with over five irrelevant details. The Disturbed group emphasized the size of the breasts by drawing them smaller or larger than normal. A number of subjects from both groups drew heads only in their artwork. Hands were often omitted or were of a large or tiny size in the artwork of the Disturbed group. Drawn lines which delineated the clothing from the body were frequently absent in the artwork of the Disturbed group.

Post-drawing inquiry.

The Disturbed and Normal group responses on the post-drawing inquiry were analyzed. Three items regarding the House were considered statistically significant at a level of $p=.10$ (Table 3). When subjects were questioned about the presence of a bedroom, the Disturbed group frequently chose either to not respond or to not specify whether there was a bedroom in the House drawing.

This lack of response was also noted when the Disturbed group was asked if there was a kitchen in the House. They drew fewer kitchens. A greater number of Disturbed subjects stated that their House drawing was close to them.

Four items regarding the Tree were considered statistically significant at a level of p=.10 (Table 3). When asked about tree type, subjects from the Disturbed group frequently did not respond or stated that they drew a dead tree. When questioned about tree branches, subjects from the Disturbed group often did not respond or stated frequently that their Tree did not have branches. Subjects from the Disturbed group either omitted a response about the location of the Tree or stated that their Tree was located in a park. The age most frequently attributed to the Tree drawing by members of the Disturbed group was 22 years or older; however, this group also most frequently did not respond to the question.

Two items related to the Person drawing were statistically significant at a level of p=.10 (Table 3). The age range of the Person drawings by the Disturbed group was most frequently 10 to 17 years. When attributing a certain feeling to the Person drawing, the Disturbed group frequently did not respond to the question or else labelled the Person sad and angry.

Group by gender, age, and institution contrasts.

An analysis of the data for the first group of 64 subjects in Stage One of the research indicates the following results. Frequency scores for the number of items scored were derived from the total of 53 significant items for the Normal group and ranged from 7 - 25. Frequency scores for the number of items scored were derived from the total of 53 significant items for the Disturbed group and ranged from 19 - 39 (Table 4). An inspection of the scores indicated the most

Table 4

Frequency and Cumulative Percentage of the Total H-T-P Score for 53 Significant Items of Normal and Disturbed Groups, Stage One (Cutoff Score: 22)

(Normal Group: n = 64, Range 7 - 25; Disturbed Group: n = 64, Range 19 - 39)

Normal Group			Disturbed Group		
Score	Frequency	Cumulative Percentage	Score	Frequency	Cumulative Percentage
7	1	3.1	19	1	3.1
9	1	6.2	22	1	6.2
10	3	15.6	23	2	12.5
11	1	18.7	24	2	18.8
12	1	21.8	25	2	25.1
13	5	37.4	26	3	34.5
14	2	43.7	27	3	43.9
15	2	50.0	30	2	50.2
16	5	65.6	31	2	56.5
17	2	71.9	32	4	69.0
18	1	75.0	33	2	75.3
19	3	84.4	35	3	84.7
20	1	87.5	38	2	91.0
21	1	90.6	39	3	100.4
23	2	96.9			
25	1	100.0			
Total: 32			Total: 32		
Mean: 15.4			Mean: 29.9		
Standard Deviation: 4.31			Standard Deviation: 5.57		

frequently occurring scores as well as the variability of the scores around the average score for Normal and Disturbed groups.

Cumulative percentage scores were calculated for the Disturbed and Normal groups; 75% of the Normal group's scores were below the lowest score (19) of the Disturbed group. Little overlap was apparent between the scores of the Disturbed and the Normal groups (19 - 25).

A t-test was [illegible] etween group means in Stage One of this research (Table 5). The result[illegible]a the Disturbed group scored significantly higher than the Norma[illegible] an increased number of emotional indicators in the H-T-P drawings ($p<.001$).

A two-way analysis of variance was performed on the H-T-P scores to investigate group by gender and age. The results (Table 6) indicate that there were no significant gender or age main effects. A two-way analysis of variance for the variable institution indicated that there was a significant difference between groups. Subjects from the Normal group had lower H-T-P scores than the subjects from the Disturbed group.

The Scheffe Test demonstrated at a level of $p=.05$ significance that the junior high school group and the senior high school group scored significantly lower than the evening treatment program, the day treatment program, combined with the medium-security treatment residential institution and the minimum-security residential treatment institution.

Stage Two of Research

After 53 variables were isolated at a significant level of $p=.10$ (Appendix C), the artwork of 32 Disturbed subjects and 32 Normal subjects was differentiated on them. The percentage of agreement of the three judges' ratings was calculated.

Table 5

Mean Comparison Between Disturbed and Normal Groups on the Total H-T-P Score (Stage One)

Variable	No. of Cases	Mean	Standard Deviation	Standard Error	F Value	2-Tail Prob.	T Value	Degrees of Freedom	2-Tail Prob.
Normal	32	15.41	4.31	.76					
					1.67	.16	-11.67	62	.00
Disturbed	32	29.94	5.57	.99					

Table 6

Group Means and Analysis of Variance and Scheffe Contrasts for Gender, Age, and Institution (Stage One: Cell Means)

A. Gender

	Normal	Disturbed	Total
Male	16.33	30.90	25.44
	(12)	(20)	
Female	14.85	28.33	19.91
	(20)	(12)	
Total Means	15.41	29.94	22.67

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Main Effects:					
Gender (A)	66.51	1	61.51	2.51	.12
Group (B)	2950.51	1	2950.52	120.29	.00
A x B	4.40	1	4.40	.18	.67

B. Age

	Normal	Disturbed	Total
Male	16.89	29.84	24.25
	(19)	(25)	
Female	13.23	30.29	19.20
	(13)	(7)	
Total Means	15.41	29.94	22.67

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Main Effects:					
Age (A)	50.65	1	50.65	2.12	.15
Group (B)	3078.50	1	3078.50	128.91	.00
A x B	54.06	1	54.06	2.26	.14

Table 6 (Continued)

Scheffe Post Hoc Comparisons p <.05
Groups 1 & 2 vs. Groups 3 & 4

C. Institution

	Count	Mean
Normal		
Group 1 (Junior High)	15	16.80
Group 2 (High School)	17	14.18
Disturbed		
Groups 3 and 6 (Medium Security and Day)	7	30.57
Group 4 (Evening Program)	11	27.36
Group 5 (Minimum Security)	14	31.64
Total	64	22.67

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Between Groups	3549.76	4	887.44	38.32	.00
Within Groups	1366.34	59	23.16		
Total	4916.11	63			

A dichotomous scoring system was used whereby each individual subject's score for each item was zero (= Normal response) or one (= Disturbed response). Twelve items, or 22.6% of the 53 variables, including the responses to the post-drawing inquiry, were found to be statistically significant at the level of p=.10 (Table 7). Three items in the House drawing, three items in the Tree drawing, and five items in the Person drawing were statistically significant at a level of p=.10. One response on the post-drawing inquiry was significant at a level of p=.10.

In Stage Two of the research, frequency scores derived from the 53 items were obtained for the Normal and Disturbed groups. For the former, the range of scores was 10 - 29; for the latter, the range of scores was 19 - 37 (Table 8) Cumulative percentage scores were calculated; 50% of the Normal scores were below the lowest score (19) of the Disturbed group. Little overlap was apparent between the scores of the Disturbed and the Normal groups (19 - 29).

Fourfold tables (Table 9) describing correct and incorrect predictions were done for the Disturbed and Normal groups in Stages One and Two. A percentage error was calculated by adding the false negatives and false positives and dividing by 64. This hit rate is a test of classification that explains how accurately Disturbed and Normal groups can be classified. A cut-off score of 22, noted in Stage Two, indicated that 51 out of 64 subjects (80%) were correctly placed in either the Disturbed or Normal groups. The range of scores for the Disturbed group was 19 - 37, and a cut-off score of 22 or above indicated possible emotional disturbance reflected in the artwork. This cut-off score resulted in the smallest percentage error (20.3%) and smallest number of misclassifications.

A t-test was calculated between group means in Stage Two. The results (Table 10) show that the Disturbed group scored significantly higher than the

Table 7

Emotional Indicators for Clinical Group on H-T-P from a Total of 53 Variables--Stage Two (n=64) (Total: 12 Statistically Significant Variables)

(Level of Statistical Significance ($p<.10$))

Item		chi-square	p
The House Drawing:			
Proportion of door	(41)	5.03	.03
Window curtains, shutters	(59)	4.79	.03
Proportion of window	(47)	4.60	.03
The Tree Drawing:			
Baseline direction	(125)	9.65	.002
Curved baseline	(126)	8.31	.004
Shading of tree	(96)	5.13	.02
The Person Drawing:			
Distortion	(366)	16.02	.0001
Size of breasts	(285)	6.26	.01
Irrelevant details of head	(191)	5.77	.02
Shading of hair	(231)	3.57	.06
Genitals	(316)	3.47	.06
Post-drawing Inquiry			
The Tree Drawing:			
Branches	(376)	6.70	.01

Table 8

Frequency and Cumulative Percentage of the Total H-T-P Score for 53 Significant Items of Normal and Disturbed Groups. Stage Two

Normal Group			Disturbed Group		
Score	Frequency	Cumulative Percentage	Score	Frequency	Cumulative Percentage
10	1	3.1	19	2	6.3
13	1	6.2	21	2	12.6
14	1	9.3	22	2	18.9
15	2	15.6	23	7	40.8
16	4	28.1	24	3	50.2
17	3	37.5	25	4	62.7
18	4	50.0	26	2	69.0
19	4	62.5	27	4	81.5
20	2	68.8	28	1	84.6
21	1	71.9	29	1	87.7
23	4	84.4	30	1	90.8
24	2	90.7	31	1	93.9
25	2	97.0	32	1	97.0
29	1	100.0	37	1	100.1
Total: 32			Total: 32		
Mean: 19.1			Mean: 25.1		
Standard Deviation: 4.31			Standard Deviation: 3.81		

Table 9

Fourfold Tables: The Effect of Cutoff Scores on the Classification of Subjects into Disturbed and Normal Groups (Derived from a Total of the 53 Statistically Significant Items)

Stage One (Cutoff: 22)

Value: 19

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	8 (12.5)	24 (37.5)	12.5
D (%)	32 (50.0)	0 (0)	

Value: 20

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	5 (7.8)	27 (42.2)	9.4
D (%)	31 (48.4)	1 (1.6)	

Value: 21

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	4 (6.3)	28 (43.8)	7.8
D (%)	31 (48.4)	1 (1.6)	

Value: 22

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	3 (4.7)	29 (45.3)	6.3
D (%)	31 (48.4)	1 (1.6)	

Value: 23

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	3 (4.7)	29 (45.3)	7.8
D (%)	30 (46.9)	2 (3.1)	

Value: 24

Classification in Reality	Scores on Picture D	Scores on Picture N	% Error
N (%)	1 (1.6)	31 (48.4)	7.8
D (%)	28 (43.8)	4 (6.3)	

Table 9 (Continued)

Stage Two (Cutoff: 22)

Value: 19

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	16 (25.0)	16 (25.0)	25.0
D (%)	32 (50.0)	0 (0)	

Value: 20

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	12 (18.8)	20 (31.3)	21.9
D (%)	30 (46.9)	2 (3.1)	

Value: 21

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	10 (15.6)	22 (34.4)	18.8
D (%)	30 (46.9)	2 (3.1)	

Value: 22

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	9 (14.1)	23 (35.9)	20.3
D (%)	28 (43.8)	4 (6.3)	

Value: 23

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	9 (14.1)	23 (35.9)	23.4
D (%)	26 (40.6)	6 (9.4)	

Value: 24

Classification in Reality	Scores on Picture: D	N	% Error
N (%)	5 (7.8)	27 (42.2)	28.1
D (%)	19 (29.7)	13 (20.3)	

Table 10

Mean Comparison Between Disturbed and Normal Groups on the Total H-T-P Score (Stage Two)

Variable	No. of Cases	Mean	Standard Deviation	Standard Error	F Value	2-Tail Prob.	T Value	Degrees of Freedom	2-Tail Prob.
Normal	32	19.06	4.09	.72					
					1.15	.70	-6.14	62	.00
Disturbed	32	25.13	3.81	.67					

Normal group, with an increased number of emotional indicators in the H-T-P drawings ($p<.001$). The difference in mean scores between the Disturbed and Normal groups in Stage One was slightly larger than the difference in mean scores in Stage Two. The findings indicate that there were significant differences in the artwork of the Disturbed and Normal groups.

Cell means for the second group of 64 subjects regarding gender, age, and institution were calculated (Table 11). A two-way analysis of variance was performed on this data to investigate group, gender, and age differences. The results indicate that there were no significant gender or age main effects. A two-way analysis of variance for the variable of institution indicated that there was a significant difference between groups. The Scheffe Test demonstrated at a significance level of $p=.05$ that the junior high school and the senior high school subjects differed significantly from the evening treatment program and medium-security residential program subjects.

D. Summary of Results

The H-T-P test was group administered to Disturbed and Normal subjects, with the post-drawing inquiry following the completion of the artwork. The findings of this study identified and clearly differentiated between the artwork of the Disturbed and Normal subjects. The results indicated that there were no significant gender or age main effects in these groups. Reducing the administration of 393 items to 53 items resulted in a practical instrument that had the power to differentiate between groups.

Inspection of the group means for the variable of subject institution clearly shows that there was a significant difference between the scores of the Disturbed group and the Normal group.

Table 11

Group Means and Analysis of Variance and Scheffe Contrasts for Gender, Age, and Institution (Stage Two: Cell Means)

A. Gender

	Normal	Disturbed	Total
Male	25.33	32.21	30.15
	(6)	(14)	
Female	23.73	30.11	26.34
	(26)	(18)	
Total Means	24.03	31.03	27.53

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Main Effects:					
Gender (A)	44.71	1	44.71	2.91	.09
Group (B)	464.33	1	464.33	30.26	.00
A x B	2.08	1	2.08	.14	.71

B. Age

	Normal	Disturbed	Total
Male	20.75	25.08	23.39
	(16)	(25)	
Female	17.38	25.29	19.78
	(16)	(7)	
Total Means	19.06	25.13	22.09

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Main Effects:					
Age (A)	49.71	1	49.71	3.41	.07
Group (B)	446.00	1	446.00	30.55	.00
A x B	41.65	1	41.65	2.85	.10

Table 11 (Continued)

Scheffe Post Hoc Comparisons p <.05
Groups 1 & 2 vs. Groups 3 & 4

C. Institution

	Count	Mean
Normal		
Group 1 (Junior High)	16	20.75
Group 2 (High School)	16	17.38
Disturbed		
Groups 3 and 6 (Medium Security and Day)	17	26.60
Group 4 and 7 (Evening Program and Private)	15	23.82
Total	64	22.67

Analysis of Variance

Source	ss	df	ms	F	Sig. of F
Between Groups	754.70	5	150.94	10.93	.00
Within Groups	800.74	58	13.8		
Total	1555.44	63			

In Stage One of the study, 53 out of 393 items were found to differ and were considered statistically significant at a level of p=.10. The greatest number of significant items (18 items) was noted in the Person drawing; the Tree drawing ranked second (16 items), and the House drawing ranked third (10 items).

In Stage Two of the study, 12 out of 53 items were considered statistically significant. A cut-off score of 22 indicated that approximately 80% of the subjects were placed correctly in the Disturbed and Normal groups. The greatest number of significant items (5 items) was noted in the Person drawing; the House (3 items) and the Tree drawings (3 items) ranked second.

E. Discussion

From the literature review presented in Chapter II, it was evident that little reliable H-T-P research compared the artwork of Disturbed and Normal children. In the present study, it was proposed that extensive training of judges on a revised H-T-P scoring guide would yield significant results comparing the artwork of Disturbed and Normal subjects. Furthermore, it was speculated that these major art variables would differentiate a second group of Disturbed and Normal children.

A high level of agreement occurred among the three judges in Stage One and Stage Two of this study. This could suggest that thorough, extensive rater training and well-defined criteria for the scoring guide provided the judges with adequate information to enhance their learning of specific art indicators. It should be emphasized that for individual use of the scoring guide, one rater could master the guide in order to assess the H-T-P drawings independently. Existing research (Scribner & Handler, 1987) suggests that a more accurate and empathetic approach for scoring figure drawings could be noted in those raters with an affilia-

tive interpretive style. This further indicates that a cognitive approach to assessing figure drawings should supplement a primarily intuitive rater viewpoint. Art interpretation seems to depend on the skill and bias of the rater.

In the present study, it should be noted that the variable of gender was not matched for the Disturbed and Normal populations in either Stage One or Stage Two. In Stage One, there were more males in the Disturbed group and more females in the Normal group. In Stage Two, there were more females in both the Disturbed and Normal groups. There was no indication of significant gender main effects in the Disturbed and Normal groups. Therefore, differences between the artwork of the Disturbed and Normal subjects were not likely due to gender differences.

This study suggests that the H-T-P scoring guide, reduced from 193 variables to 53 variables, was more practical, refined, and efficient than Buck's (1948) lengthy scoring manual. The effectiveness of the scoring guide in this study is noted in the result of the effect of the cutoff score on the classification of subjects into Disturbed and Normal groups. Correct classification of Disturbed subjects was approximately 30% more effective than by chance alone. The results suggest that the use of the present guide has more value than clinical judgement alone. These results should be considered in view of the fact that the Disturbed subjects in this study were deemed severely disturbed. It would be relevant to determine the validity of the above results with a less disturbed population.

Although the results clearly indicate that the H-T-P was able to differentiate between the artwork of Disturbed and Normal subjects, the results in Stage One indicated the statistical significance between groups as slightly better than chance. Increased statistical significance between groups was noted in Stage Two of

the study. These results suggest that the practical use of the H-T-P test in various institutions could be limited unless the projective test is used in conjunction with other personality assessment devices.

One of the ethical considerations in this study involved the consequence of misclassifying Normal subjects as Disturbed. In Stage Two, approximately 80% of the subjects were classified correctly in the Disturbed and Normal groups. Since 14% of the Normal subjects were misclassified as Disturbed, labelling a Normal child Disturbed could have negative repercussions on consequent treatment intervention for the child. The use of drawings is questionable as indicators of emotional disturbance without the use of additional assessment techniques. Drawings could be used effectively as a psychotherapeutic device when working clinically with children. It is clear that additional personality assessment beyond the H-T-P test is necessary with all subjects before further intervention should occur. This would lessen the possibility of misdiagnosis.

V. SUMMARY AND CONCLUSIONS

A. Overview of Study

The present research utilized the House-Tree-Person (H-T-P) projective test (by comparing the artwork of Disturbed subjects to the artwork of Normal subjects) to isolate those variables on which their drawings differed.

This research compared the two groups using several art indicators which yielded certain descriptors which differentiated group membership. Specific variables were used to form a "function" to differentiate Disturbed and Normal populations. The study provided a more accurate scoring method for the H-T-P drawings for groups of Disturbed and Normal children. The results clearly differentiated between the artwork of the Disturbed and Normal subjects. The reduction of 393 items to 53 items in the scoring guide resulted in a more practical scoring instrument. Stage Two results also indicated that approximately 80% of the subjects were placed correctly in the Disturbed and Normal groups.

Stage One and Stage Two each consisted of a group of 32 Disturbed and 32 Normal subjects, for a total of 128 subjects. The majority of the Disturbed subjects were male in Stage One and female in Stage Two, whereas the majority of the Normal subjects were female in Stage One and in Stage Two. In both stages of the research, the majority of the Disturbed subjects lived within a residential psychiatric setting, while the subjects in the Normal group were selected from junior and high school settings. In Stage One, the H-T-P drawings of the Disturbed and Normal subjects were contrasted. In Stage Two, a second group of H-T-P drawings were contrasted using the 53 significant variables on which the subjects' artwork differed in Stage One.

At a statistical level of p=.10, 13.5% of the art variables in Stage One of the study were statistically significant. In Stage Two of the study, 22.6% of the items were statistically significant at a level of p=.10. In Stage One of the study, 53 variables were statistically significant. Ten out of 92 items in the House drawing were considered statistically significant, and 16 out of 66 items were statistically significant in the Tree drawing. Of the 208 items in the Person drawing, 18 items were statistically significant. Nine out of 27 items on the post-drawing inquiry were also considered statistically significant. Since 10% of the art variables could be statistically significant due to chance, a significance of 13.5% in Stage One is only slightly better than chance. In Stage Two, three items in the House drawing were statistically significant. Three items in the Tree drawing were statistically significant. Five items were considered statistically significant in the Person drawing. One item in the post-drawing inquiry was considered statistically significant.

In Stages One and Two of the study, the Person drawing had the greatest number of statistically significant items. In Stage One, the Tree drawing ranked second, the House drawing third, and the post-drawing inquiry fourth. In Stage Two, the Tree and House drawings ranked second and the post-drawing inquiry fourth.

In the House drawing, Disturbed subjects most frequently drew simplistic versions of windows, without curtains or shutters. Windows were often drawn in a distorted fashion, devoid of details and in an either very large or very small size related to the whole House drawing. In the Tree drawing, Disturbed subjects most frequently drew baselines that were curved and in a right or left direction. There was often a depiction of a swaying motion evident in the Tree. Branches

were either omitted or drawn in a one-dimensional perspective. Leaves were often one-dimensional. As in the House drawing, the Tree was drawn in a simplistic fashion by the Disturbed group. For example, fewer relevant details and more unshaded drawings were evident in the Tree. The Disturbed subjects more frequently drew bark and abstract, deciduous trees. They frequently placed the Tree in a deviant position on the page so that it was partially omitted by the use of a specific margin. In the Person drawings, the Disturbed group more frequently drew distorted Persons with a greater number of omissions and unshaded areas. Very large- or very small-sized body parts were often absent in the artwork of the Disturbed group. Faces were often depicted as sad or angry. Psychosexual art indicators were noted in the more frequent drawings of genitals and breasts in the artwork of the Disturbed group.

Responses for the post-drawing inquiry indicated that the Disturbed group more frequently refused to respond to a number of questions. s might have been because of the subjects' psychiatric disturbance and/or the effects of medication.

The Disturbed group demonstrated significantly more emotional art indicators within their artwork. Generally, the artwork of the Disturbed group was characterized by qualities of asymmetry, lack of shading, and simplicity. Frequently, drawings were either in one- or two-dimensional perspective and non-centered (Appendix F).

A significant difference was not apparent between the Disturbed and Normal groups in the variables of gender and age. A cutoff score of 22 in both stages of this study resulted in the smallest number of misclassifications of Disturbed and Normal subjects. In Stage Two, the artwork was assessed according to 53

significant variables. Fifty-one out of 64 subjects (80%) were appropriately placed in the Disturbed and Normal groups.

V. Conclusions and Implications

In Stage One of the study, results indicate that the Disturbed and Normal groups could be differentiated according to various art indicators. Frequency scores derived from a qualitative analysis of 393 items created a range of scores that assisted in differentiating subjects.

The present results support the research of Exner (1962) and Koppitz (1968) in that there are significant differences in the drawings of the human figure by Disturbed subjects as contrasted to Normal subjects. The Person drawing had the greatest number of significant items; the House drawing had the smallest number. The Tree drawing ranked a close second in the number of significant variables. The Tree drawing may be perceived as having a more neutral theme than the House and Person drawings. As a result, for some subjects the expression of traumatic past experiences or traits of emotional disturbance may be projected onto the Tree (Bolander, 1977; Buck, 1948; Hammer, 1964).

In Stage Two of the research concerning a second group of Disturbed and Normal subjects, approximately 23% of 53 significant items differentiated the Disturbed group from the Normal group. The results of Stage Two assisted in the formulation of a clearly defined scoring method to differentiate between the responses of Disturbed and Normal groups. Specific cut-off points differentiating the scores of subjects in Disturbed and Normal groups will assist trained professionals in the analysis of the H-T-P drawings.

It must be noted that according to the specified cut-off point, approximately 14% of the Normal subjects in this study were misclassified as Disturbed. There

were some Normal subjects who produced artwork containing as many emotional art indicators as those produced by subjects in the Disturbed group. The number of those Normal subjects would lower the level of misclassification of Normal subjects as Disturbed.

This study does not support the view that young children are more absorbed in their drawings than older children (Falk, 1981). The older subjects did not convey resistance or less absorption in completing their artwork. Only 1 out of 128 subjects refused to draw the Person drawing. The creation of art seemed stimulating and, in the communicative attempt, subjects expressed thoughts and feelings.

One conclusion drawn from the study is that judges with comprehensive training performed at a high level of agreement in both stages of this study. Such results also depend upon well-defined criteria for the items in the scoring guide. This study also suggests that the reduction of the H-T-P scoring guide from 393 variables to 53 variables produced a more practical and refined instrument than Buck's (1948) original H-T-P scoring manual.

Results of this study focused on the effect of the cutoff score on the correct classification of subjects in Disturbed and Normal groups. Since appropriate classification of Disturbed subjects was approximately 30% more effective than chance alone, such results emphasize the value of the guide over the clinical judgement alone of art.

In summary, findings indicate that the H-T-P test can differentiate between the artwork of Disturbed and Normal subjects. Since statistical significance between groups was somewhat better than chance, such results imply that the H-T-P projective test must be used with other personality assessment devices to assess personality qualities.

Finally, the results of this study have ethical implications that involve the consequences of misclassifying Normal subjects as Disturbed. Such misdiagnosis could create undue stress for the child and negatively affect his/her behaviour. Therefore, it is relevant to interpret drawings within the context of various sources of information about the subject, ranging from historical data, developmental and cognitive information to observational data.

C. Limitations of the Study

This study was designed with the following delimitations.

Firstly, because the ages of the subjects in this study ranged from 12 to 18 years, and because the subjects were not matched according to gender and age, psychiatric diagnosis, socioeconomic background and intelligence level, demographic data would have to be clearly analyzed before research results could be generalized to other populations.

Secondly, although it is difficult to assess the level of pathology in the Disturbed group, in this research it seemed clear that the subjects from the medium-security institution produced artwork with the greatest number of emotional art indicators. This study did not evaluate the respective diagnostic categories of each subject and the specific corresponding art indicators. Here consideration was given to common characteristics of all of the subjects' drawings as well as the interrelationships of different parts of the H-T-P drawing.

Thirdly, in order to maintain a consistent method of administration, the researcher administered in a consistent fashion all of the H-T-P drawings within all seven settings. Group administration also reduces the experimenter observation of variables such as subject attitude, specific individual drawing time, and unique drawing method. The quality of the drawings may have been affected by the

attitudes of other subjects. Subject concentration may have been affected by other subjects, while the quality of responses to the post-drawing inquiry may have been enhanced in a setting involving individual administration.

Fourthly, the heterogeneous nature of both Disturbed groups and both Normal groups may affect the relationship of the subjects to corresponding personality qualities. It is less difficult to assess subjects on the extremes of a continuum of health and pathology. Drawings in the middle of such a continuum provide greater uncertainty in their assessment. Such conflict art indicators were noted in the drawings of Normal subjects, which affected the results of the comparative study. There appeared to be a possibility of Disturbed subjects included in the Normal group.

Finally, the question of whether the clinical experience of a judge would affect the quality of rating ability is worthy of mention. Further studies comparing the scoring ability of judges with extensive experience in psychology and judges with little experience in psychology would be relevant. The artistic quality of drawings may interfere with the assessment by various judges. Diagnostic labels could be inappropriately applied to certain subjects.

D. Suggestions for Further Research

The goal of this present research was to discuss the H-T-P projective device and, with the current scoring guide's reduced size, exemplify how it could be employed for greater utility by skilled professionals. The results indicate several implications for future research. Increasing the utility of the H-T-P can be done through the artwork analysis of child and adolescent groups as well as through studies analyzing crosscultural differences in artwork. Children tend to communicate effectively through the medium of art. Projective techniques could be

a valuable diagnostic tool for both adult and child comparative studies. This would ultimately increase the usefulness of the H-T-P projective device.

Certain items in this study were not statistically significant because they were rare occurrences; these graphic indicators made by subjects of the Disturbed group could be investigated through future research. Such items may further differentiate the Disturbed group from the Normal group. For example, the subjects of the Disturbed group often drew the House on the right side of the page. Moderate reinforcement of the House was frequently noted in the artwork of the Disturbed. Scars, bulges, and knotholes are seen on the Trees of the Disturbed. Moderate reinforcement of the head of the Person as well as faint line quality are drawing styles frequently seen in the artwork of the Disturbed. These graphic indicators made by subjects of the Disturbed group could be investigated through future research.

In Stage Two of the research, it was evident that 12 items of the 53 variables isolated in Stage One were statistically significant at a level of .10. Because these art indicators were significant in both stages of the research, they need to be emphasized in further comparative H-T-P research.

In the artwork of the Disturbed group, the following art indicators were evident significantly more often than in the artwork of the Normal group. The door of the House drawing was either smaller or larger than an average-sized door. Window curtains and shutters were often omitted in the drawings. Windows were frequently either absent or of unusual proportion. The baseline direction of the Tree drawing was seldom centered and often in a right or left direction. Curved baselines were frequently noted. The Tree drawing was often unshaded. In the Person drawing, body distortion was frequently evident. Breasts were

drawn either smaller or larger than normal. Fewer irrelevant head details were noted, and hair was frequently unshaded. Genitalia were more frequently drawn in the artwork of the Disturbed group. In the post-drawing inquiry, subjects often stated that branches were absent in the Tree drawing.

The above statistically significant differences between the Disturbed and Normal groups require future consideration as they lend support to the effectiveness and richness of detail elicited by the H-T-P technique in providing general diagnostic information.

Finally, caution is necessary in using diagnostic labels in the assessment of artwork. Continued work must be done to operationalize all existing items and procedures of the H-T-P. Psychological labels need to be viewed as guides to understanding the characteristics and conflicts of an individual. The modified H-T-P scoring manual, a more accurate scoring method discussed in this research, clearly differentiated between Disturbed and Normal subjects. In order to clarify maximal usage of the H-T-P, a perspective is required that involves a union of empirical projective research and clinical findings.

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APPENDIX A

Consent Forms

To Student:

This study will examine the art work of children. The House-Tree-Person (H-T-P) consists of a free-hand drawing of a House, Tree and Person which gives information about an individual's personality. The drawings of the children will help to arrive at a more accurate scoring that identifies differences between children with emotional problems and normal students. The children will be required to draw three pencil drawings, taking approximately a total of thirty minutes. All pictures will be anonymous and participation will be voluntary.

Thank you for your time and cooperation.

I, _____, hereby consent to allow Janna Z. Rosen-Wollman to administer the House-Tree-Person Projective Test to myself. Pictures will remain anonymous and will be utilized for research purposes and program development.

Dated at _____ this _____ day of

_____ A.D. 1989.

_____ _____

Witness Signature of Student

To Parent(s) of Student:

This study will examine the art work of children. The House-Tree-Person (H-T-P) consists of a free-nand drawing of a House, Tree and Person which gives information about an individual's personality. The drawings of the children will help to arrive at a more accurate scoring that identifies differences between children with emotional problems and normal students. The children will be required to draw three pencil drawings, taking approximately a total of thirty minutes. All pictures will be anonymous and participation will be voluntary.

If you **do not** wish your child to partake in the above study, please sign below.

Thank you for your time and cooperation.

Dated at _____ this _____ day of

_____ A.D. 1989.

_____ _____

Witness Signature of Parent/Parents

APPENDIX B

House-Tree-Person Major Categories

The House Drawing

A. Primary Features (sixteen major features common to each House, Tree, and Person drawing)

1. Proportion
2. Symmetry
3. Dimension/Presentation
4. Shading
5. Perspective — horizontal axis
   — vertical placement
6. Margin Deviance
7. View
8. Transparency
9. Relevant Details
10. Irrelevant Details
11. Complexity of Detail
12. Erasure
13. Reinforcement
14. Shape
15. Movement
16. Predominant Line Quality

B. Secondary Feature

1. Double Perspective

C. Relevant Details

1. Roof(s)
2. Wall(s)
3. Door(s)
4. Window(s)

D. Nearby Irrelevant Details

1. Porch
2. Steps
3. Chimney(s)
4. Smoke
5. Storey(s)
6. Walkway(s)
7. Shrubbery
8. Tree(s)
9. Flower(s)
10. Facing(s)
11. Groundline
12. Shadow(s)
13. Degrading Detail(s)

D. Distant Irrelevant Details

1. Sun
2. Mountains
3. Snow

Total = 36 major House items

The Tree Drawing

A. Primary Features

1. Proportion
2. Symmetry
3. Dimension/Presentation
4. Shading
5. Perspective — horizontal axis
   — vertical placement
6. Margin Deviance
7. View
8. Transparency
9. Relevant Details
10. Irrelevant Details
11. Complexity of Detail
12. Erasure
13. Reinforcement
14. Shape
15. Movement
16. Predominant Line Quality

B. Relevant Details

1. Trunk
2. Bark
3. Roots
4. Baseline
5. Crown: Branches

6. Branch System

7. Foliage

8. Branch System Baseline

9. Branch Endings

C. Irrelevant Details

1. Grass

2. Type of Tree

3. Special Signs

Total = 28 major Tree items

The Person Drawing

A. Primary Features

1. Proportion

2. Symmetry

3. Dimension/Presentation

4. Shading

5. Perspective — horizontal axis

— vertical placement

6. Margin Deviance

7. View

8. Transparency

9. Relevant Details

10. Irrelevant Details

11. Complexity of Detail

12. Erasure

13. Reinforcement

14. Shape

15. Movement

16. Predominant Line Quality

B. Secondary Features

1. Presentation of Figure

2. Size

3. Type of Figure

4. Omissions

5. Delineation of Line Absence

6. Emphasis Lines

7. Distortion

C. Relevant Details

(i) Social Features (parts of head that serve to communicate with others)

1. Head

2. Eyes

3. Nose

4. Mouth

5. Lips

6. Chin

7. Ear

8. Hair

9. Eyebrows

10. Neck

11. Facial Expression

(ii) Contact Features (parts of the person that determine contact with the external environment)

1. Arms
2. Hands
3. Fingers
4. Legs
5. Feet

(iii) Miscellaneous Body Features

1. Trunk
2. Breasts
3. Shoulders
4. Hips, Buttocks
5. Waistline

(iv) Clothing

1. General Characteristics
2. Specific Characteristics

D. Irrelevant Details

1. Joints
2. Genitalia
3. Navel
4. Nipples
5. Body Hair
6. Teeth
7. Moustache
8. Beard

9. Buttons
10. Belt
11. Jewellery
12. Hair Details
13. Nail Polish
14. Makeup
15. Special Symbols

Total = 47 major Person items

Total H-T-P = 111 major items.

APPENDIX C

I: House-Tree-Person Quantitative Scoring Analysis Guide

(* Asterisks refer to relevant and irrelevant details of H-T-P drawings noted at the end of the guide.)

The House Drawing

Feature

1. Proportion (size of whole drawing to page)

   (small) 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ (large)

2. Symmetry

   1. asymmetrical drawing ___

   2. symmetrical drawing ___

   3. over-symmetrical drawing-rigidity ___

3. Dimension/Presentation

   1. two ___ 2. three ___

4. Shading

   1. no ___ 2. partial ___ 3. full ___

5. Perspective

   1. horizontal axis

      1. left of page ___ 2. centre of page ___ 3. right of page ___

6. Perspective

   1. vertical placement of whole

      (bottom) 1. ___ 2. ___ 3. ___ 4. ___ (top)

7. Margin deviance - paper chopped

      1. yes ___ 2. no ___

8. Margin deviance - paper topped

      1. yes ___ 2. no ___

9. Margin deviance - paper siding

   1. yes ___ 2. no ___

10. Margin deviance - paper based

    1. yes ___ 2. no ___

11. View

    1. bird's eye ___ 2. worm's eye ___ 3. head-on ___

12. Double perspective (main and end walls)

    1. yes ___ 2. no ___

13. Transparency

    1. yes ___ 2. no ___

14. Relevant details *

    (few) 1. ___ 2. ___ 3. ___ 4. ___ 5+. ___ (many)

15. Irrelevant details *

    1. none ___

    2. one ___ 3. two ___ 4. three ___ 5. four ___ 6. five+ ___

16. Complexity of detail

    1. simple ___ 2. complex ___

17. Erasure

    1. none ___ 2. low ___ 3. moderate ___ 4. high ___

18. Reinforcement

    1. none ___ 2. low ___ 3. moderate ___ 4. high ___

19. Shape

    1. conventional ___ 2. unconventional ___

20. Movement

    1. no graphic suggestion of movement ___

    2. graphic suggestion of movement ___

21. Predominant line quality

    (faint) 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ (extreme force)

    6. fine, interrupted ___

    7. average, interrupted ___

    8. heavy, interrupted ___

Relevant Details - Roof

22. Occurrence of art indicator

    1. present ___ 2. absent ___

23. Proportion

    1. absent ___

    2. average size of whole drawing related to intra-whole ___

    3. unusual size of whole drawing related to intra-whole ___

24. Symmetry

    1. absent ___

    2. asymmetrical drawing ___

    3. symmetrical ___

    4. over-symmetrical drawing-rigidity ___

25. Dimension/Presentation

    1. absent ___ 2. one ___ 3. two ___ 4. three ___

26. Shading

    1. absent ___ 2. no ___ 3. partial ___ 4. full ___

27. Roof material

    1. absent (roof) ___
    2. none (roof material) ___
    3. shading ___
    4. blocking ___
    5. diagonal lines ___
    6. other ___
    7. more than one type of roof material ___

28. Eaves present by reinforcement or extension

    1. yes ___ 2. no ___

29. Shape of Roof

    1. absent ___ 2. conventional ___ 3. unconventional ___

30. Predominant line quality

    1. absent ___

    (faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

    7. fine, interrupted ___
    8. average, interrupted ___
    9. heavy, interrupted ___

31. Transparency

    1. yes ___ 2. no ___

Relevant details - wall

32. Occurrence of art indicator

    1. present ___ 2. absent ___

33. Baseline evident for wall

    1. yes ___ 2. no ___

34. Number of walls

    1. one ___ 2. two ___ 3. three ___ 4. four or more ___

35. Wall material shown

    1. present (wall) ___
    2. absent (material) ___
    3. partially ___
    4. completely ___

36. Transparency

    1. yes ___ 2. no ___

37. Rain spouts or gutters indicated

    1. yes ___ 2. no ___

Relevant details - door

38. Occurrence of art indicator

    1. present ___ 2. absent ___

39. Door with window

    1. absent ___ 2. yes ___ 3. no ___

40. Presence of door details (locks, hinges, knobs)

    1. none ___ 2. one ___ 3. two ___ 4. three ___ 5. more than 3 ___

41. Proportion (door to whole house)

    1. absent ___
    2. average size of whole drawing related to intra-whole ___
    3. unusual size of whole drawing related to intra-whole ___

42. Symmetry

    1. absent ___
    2. asymmetrical drawing ___
    3. symmetrical drawing ___
    4. over-symmetrical drawing-rigidity ___

43. Dimension/Presentation

    1. absent ___ 2. one ___ 3. two ___ 4. three ___

44. Shading

    1. absent ___ 2. no ___ 3. partial ___ 4. full ___

45. Malplaced door

    1. absent ___ 2. yes ___ 3. no ___

Relevant details - window

46. Occurrence of art indicator

    1. present ___ 2. absent ___

47. Proportion

    1. absent ___
    2. average size of whole drawing related to intra-whole ___
    3. unusual size of whole drawing related to intra-whole ___

48. Symmetry

    1. absent ___
    2. asymmetrical drawing ___
    3. symmetrical drawing ___
    4. over-symmetrical drawing-rigidity ___

49. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

50. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

51. Perspective

1. Roof-topped

1. absent ___ 2. yes ___ 3. no ___

52. Perspective

1. Wall-sided

1. absent ___ 2. yes ___ 3. no ___

53. Perspective

1. Malplaced

1. absent ___ 2. yes ___ 3. no ___

54. Shape

1. absent ___ 2. conventional ___ 3. unconventional ___

55. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___

8. average, interrupted ___

9. heavy, interrupted ___

56. Only one window

1. yes ___ 2. no ___ 3. window absent ___

57. Two or more windows (including door windows)

1. yes ___ 2. no ___ 3. window absent ___

58. Window pane(s) (i.e., division in window - midline)

1. yes ___ 2. no ___ 3. window absent ___

59. Presence of window curtains, shutters

1. yes ___ 2. no ___ 3. window absent ___

60. Presence of window shades

1. yes ___ 2. no ___ 3. window absent ___

61. Presence of window locks, bars

1. yes ___ 2. no ___ 3. window absent ___

62. Presence of closed windows (curtains, shutters, shades, obstructed, opaque)

1. yes ___ 2. no ___ 3. window absent ___

4. window broken ___ 5. closed: people/objects visible ___

Nearby Irrelevant Details:

Porch

63. Occurrence of art indicator

1. present ___ 2. absent ___

64. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

65. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

66. Transparency

1. absent ___ 2. yes ___ 3. no ___

Steps

67. Occurrence of art indicator

    1. present ___ 2. absent ___

68. Ladder-like steps (no depth)

    1. absent ___ 2. yes ___ 3. no ___

69. Dimension/Presentation

    1. absent ___ 2. one ___ 3. two ___ 4. three ___

70. Shading

    1. absent ___ 2. no ___ 3. partial ___ 4. full ___

71. Steps malplaced

    1. absent ___ 2. yes ___ 3. no ___

Chimney

72. Occurrence of art indicator

    1. present ___ 2. absent ___

73. Proportion

    1. absent ___
    2. average size of whole drawing related to intra-whole ___
    3. unusual size of whole drawing related to intra-whole ___

74. Symmetry

    1. absent ___
    2. asymmetrical drawing ___
    3. symmetrical drawing ___
    4. over-symmetrical drawing-rigidity ___

75. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

76. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

77. **Smoke**

1. no smoke ___
2. presence of smoke ___
3. smoke veering to the side ___

78. Chimney malplaced

1. absent ___ 2. yes ___ 3. no ___

Storeys

79. Occurrence of art indicator

1. present ___ 2. absent ___

80. Number of storeys

1. no storeys (roof only) ___
2. single storey ___
3. one and a half storeys ___
4. two-storey house ___
5. more than two storeys ___

Walkway

81. Occurrence of art indicator

1. present ___ 2. absent ___

82. Width of walkway

1. absent ___ 2. wide ___ 3. narrow ___ 4. average ___

Shrubbery

83. Occurrence of art indicator

1. present ___ 2. absent ___

Tree/Trees

84. Occurrence of art indicator

1. present ___ 2. absent ___

Flower(s) (daisy-like flowers and tulips)

85. Occurrence of art indicator

1. present ___ 2. absent ___

Facing(s) (door(s), window(s)

86. Occurrence of art indicator

1. present ___ 2. absent ___

Groundline

87. Occurrence of art indicator

1. present ___ 2. absent ___

Shadow(s)

88. Occurrence of art indicator

1. present ___ 2. absent ___

Degrading details

89. Occurrence of art indicator

1. present ___ 2. absent ___

Distant Irrelevant:

Sun

90. Occurrence of art indicator

1. present ___ 2. absent ___

Mountains

91. Occurrence of art indicator

1. present ___ 2. absent ___

Snow

92. Occurrence of art indicator

1. present ___ 2. absent ___

The Tree Drawing

Feature

93. Proportion (size of whole drawing to page):

small 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ large

94. Symmetry

1. asymmetrical drawing ___
2. symmetrical drawing ___
3. over-symmetrical drawing-rigidity ___

95. Dimension/Presentation

1. one ___ 2. two ___ 3. three ___

96. Shading

1. no ___ 2. partial ___ 3. full ___

Perspective

97. 1. Horizontal axis

1. left of page ___

2. centre of page ___

3. right of page ___

Perspective

98. 1. Vertical axis

(bottom) 1. ___ 2. ___ 3. ___ 4. ___ (top)

99. Margin deviance - paper chopped

1. yes ___ 2. no ___

100. Margin deviance - paper topped

1. yes ___ 2. no ___

101. Margin deviance - paper siding

1. yes ___ 2. no ___

102. Margin deviance - paper based

1. yes ___ 2. no ___

103. View

1. bird's eye ___ 2. worm's eye ___ 3. head-on ___

104. Transparency

1. yes ___ 2. no ___

105. Relevant details *

(few) 1. ___ 2. ___ 3. ___ 4. ___ 5+. ___ (many)

106. Irrelevant details *

1. none ___

2. one ___ 3. two ___ 4. three ___ 5. four ___ 6. five+ ___

107. Complexity of detail

1. simple ___

2. complex ___

108. Erasure

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

109. Reinforcement

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

110. Shape

1. conventional ___ 2. unconventional ___

111. Movement

1. no graphic suggestion of movement ___

2. graphic suggestion of movement ___

112. Predominant line quality

(faint) 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ (extreme force)

6. fine, interrupted ___

7. average, interrupted ___

8. heavy, interrupted ___

Relevant Details:

The trunk

113. Occurrence of art indicator

1. present ___ 2. absent ___

114. Symmetry

1. absent ___
2. asymmetrical drawing ___
3. symmetrical ___
4. over-symmetrical drawing-rigidity ___

115. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

116. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

117. Movement

1. absent ___
2. no graphic suggestion of movement ___
3. graphic suggestion of movement ___

118. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___
8. average, interrupted ___
9. heavy, interrupted ___

119. Scars/bulges, knotholes

1. absent ___ 2. yes ___ 3. no ___

120. Characteristics of trunk

1. absent ___
2. parallel straight trunk/straight trunk ___
3. slight or exaggerated funnel type ___
4. wavy/slanted ___
5. partial/chopped ___

Bark

121. Occurrence of art indicator

1. present ___ 2. absent ___

Roots

122. Occurrence of art indicator

1. present ___ 2. absent ___

123. Type of roots

1. absent ___
2. 1- or 2-dimensional roots shown by irregular taper into the ground (three or more) ___
3. flattened, surface roots ___
4. crossing root structure ___
5. below groundline/tree suspended ___

Baseline (groundline)

124. Occurrence of art indicator

1. present ___ 2. absent ___

125. Direction

1. absent ___ 2. right ___ 3. left ___ 4. centre ___

126. Curved

1. absent ___ 2. yes ___ 3. no ___

127. Quality of baseline

1. absent ___
2. paper based tree ___
3. "boxed" tree ___
4. baseline for trunk and beyond ___
5. groundline below the tree trunk ___
6. groundline above the tree trunk ___

Crown: Branches

128. Occurrence of art indicator

1. present ___ 2. absent ___

129. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

130. Shading

1. no ___ 2. partial ___ 3. full ___

Branch System

131. Occurrence of art indicator

1. present ___ 2. absent ___

132. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

133. Shading

1. no ___ 2. partial ___ 3. full ___

134. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

Foliage (leaves)

135. Occurrence of art indicator

1. present ___ 2. absent ___

136. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

137. Shading

1. no ___ 2. partial ___ 3. full ___

138. Type of leaves

1. absent ___

2. one leaf or a few clearly drawn leaves ___

3. many leaves ___

4. leaves falling down ___

5. huge leaves ___

Branch System Baseline

139. Occurrence of art indicator

1. present ___ 2. absent ___

140. **Branch Endings**

1. absent ___
2. sawed off/broken ___
3. fish hook endings ___
4. covered ends by foliage ___
5. criss-cross ___
6. spear-like ___
7. branches hidden ___
8. wavy (tapering off) ___
9. other ___

Irrelevant Details: Grass

141. Occurrence of art indicator

1. present ___ 2. absent ___

Type of Tree

142. deciduous

1. not deciduous ___
2. fruit ___
3. winter ___.
4. willow ___
5. poplar ___
6. palm ___
7. abstract deciduous ___
8. realistic, open, leafy tree ___

143. coniferous

1. not coniferous ___
2. pine ___
3. yew ___
4. cedar ___
5. abstract coniferous ___

Miscellaneous

144. Christmas

1. yes ___ 2. no ___

145. Wind-blown

1. yes ___ 2. no ___

146. Dead

1. yes ___ 2. no ___

Irrelevant Details: Special Signs

147. Buds, flowers

1. yes ___ 2. no ___

148. Ladders/swing

1. yes ___ 2. no ___

149. Letters

1. yes ___ 2. no ___

150. Numbers

1. yes ___ 2. no ___

151. Symbols (i.e., fire, face)

1. yes ___ 2. no ___

152. Crosses, stars

1. yes ___ 2. no ___

153. Birds, nest, bird houses

1. yes ___ 2. no ___

154. Small or large animals

1. yes ___ 2. no ___

155. Hanging objects in trees

1. yes ___ 2. no ___

156. Objects hanging from tree

1. yes ___ 2. no ___

157. Landscape (i.e., shrubs, flowers)

1. yes ___ 2. no ___

158. More than one tree (one tree crossed out; second tree drawn; two or more, a forest)

1. yes ___ 2. no ___

The Person Drawing

159. Proportion (size of whole drawing to page)

(small) 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ (large)

160. Symmetry

1. asymmetrical drawing ___
2. symmetrical drawing ___
3. over-symmetrical drawing-rigidity ___

161. Dimension/Presentation

1. one ___ 2. two ___ 3. three ___

162. Shading

1. no ___ 2. partial ___ 3. full ___

Perspective

163. 1. horizontal axis

1. left of page ___ 2. centre of page ___ 3. right of page ___

Perspective

164. 1. Vertical placement of whole

(bottom) 1. ___ 2. ___ 3. ___ 4. ___ (top)

165. Margin deviance - paper chopped

1. yes ___ 2. no ___

166. Margin deviance - paper topped

1. yes ___ 2. no ___

167. Margin deviance - paper siding

1. yes ___ 2. no ___

168. Margin deviance - paper based

1. yes ___ 2. no ___

169. View

1. bird's eye ___ 2. worm's eye ___ 3. head-on ___

170. Transparency

1. yes ___ 2. no ___

171. Relevant details *

(few) 1. ___ 2. ___ 3. ___ 4. ___ 5+. ___ (many)

172. Irrelevant details *

1. none ___

2. one ___ 3. two ___ 4. three ___ 5. four ___ 6. five+ ___

173. Complexity of detail

1. simple ___

2. complex ___

174. Erasure

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

175. Reinforcement

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

176. Shape

1. conventional ___ 2. unconventional ___

177. Movement

1. no graphic suggestion of movement ___

2. graphic suggestion of movement ___

178. Predominant line quality

(faint) 1. ___ 2. ___ 3. ___ 4. ___ 5. ___ (extreme force)

6. fine, interrupted ___

7. average, interrupted ___

8. heavy, interrupted ___

179. Presentation of figure (full face)

1. present ___ 2. absent ___ 3. rearview ___

180. Presentation of figure (profile)

1. present ___ 2. absent ___

181. Head profile (body, full face)

1. absent ___ 2. yes ___ 3. no ___ 4. head profile only ___

182. Body profile (head, full face)

1. absent ___ 2. yes ___ 3. no ___

183. Size

1. average (7 inches) ___
2. small (less than 7 inches) ___
3. very small (less than 5 inches) ___
4. large (over 9 inches) ___

184. Type of figure (gender)

1. male ___
2. female ___
3. androgynous ___

Social Features

Head

185. Occurrence of art indicator

1. present ___ 2. absent ___

186. Size

1. absent ___
2. head only ___
3. average size of whole drawing related to intra-whole ___
4. unusual size of whole drawing related to intra-whole ___

187. Symmetry

1. absent ___
2. asymmetrical drawing ___
3. symmetrical drawing ___
4. over-symmetrical drawing-rigidity ___

188. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

189. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

190. Relevant details *

1. absent ___
2. one ___
3. two ___
4. three ___
5. four ___
6. five+ ___

191. Irrelevant details*

1. absent ___
2. none ___
3. one ___
4. two ___
5. three ___
6. four ___
7. five+ ___

192. Complexity of detail

1. absent ___
2. simple ___
3. complex ___

193. Erasure

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

194. Reinforcement

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

195. Shape

1. absent ___ 2. conventional ___ 3. unconventional ___

196. Movement

1. absent ___
2. no graphic suggestion of movement ___
3. graphic suggestion of movement ___

197. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___
8. average, interrupted ___
9. heavy, interrupted ___

Eyes

198. Occurrence of art indicator

1. present ___
2. absent ___

199. Incorrect number (two in profile, one full-face)

1. absent ___ 2. yes ___ 3. no ___

200. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

201. Eyes shown by dots, hollow circles, ovals, squares, horizontal lines (omission of pupil)

1. absent ___ 2. yes ___ 3. no ___

202. Eyes shown with 2-dimensional socket and pupils indicated by dots, circles

1. absent ___ 2. yes ___ 3. no ___

203. Crossed eyes

1. absent ___ 2. yes ___ 3. no ___

Nose

204. Occurrence of art indicator

1. present ___ 2. absent ___

205. Nose a single, straight, vertical line, dot(s) (head full face)

1. absent ___ 2. yes ___ 3. no ___

206. Nose a triangle, oval, square, or circle(s) (head full face)

1. absent ___ 2. yes ___ 3. no ___

207. Nose shown (in profile)

1. absent ___ 2. yes ___ 3. no ___

208. Nose - 2-dimensional

1. absent ___ 2. yes ___ 3. no ___

209. Flaring of nostrils

1. absent ___ 2. yes ___ 3. no ___

210. Cut-off, blunted appearance

1. absent ___ 2. yes ___ 3. no ___

211. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

Mouth

212. Occurrence of art indicator

1. present ___ 2. absent ___

213. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

214. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

215. Presence of teeth

1. absent ___ 2. yes ___ 3. no ___

216. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

Lips

217. Occurrence of art indicator

1. present ___ 2. absent ___

218. Full lips

1. absent ___ 2. yes ___ 3. no ___

219. Cupid bow lips/heavy make-up

1. absent ___ 2. yes ___ 3. no ___

220. Object in lips (pipe or cigarette)

1. absent ___ 2. yes ___ 3. no ___

Chin

221. Type

1. absent ___
2. clearly defined, full-face ___
3. clearly defined, profile ___

222. Profile - jawline evident

1. absent ___ 2. yes ___ 3. no ___

223. Erasure

1. absent ___ 2. yes ___ 3. no ___

224. Reinforcement

1. absent ___ 2. yes ___ 3. no ___

Ear

225. Occurrence of art indicator

1. present ___ 2. absent ___

226. Exposed with clear convolutions

1. absent ___ 2. yes ___ 3. no ___

227. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

Hair

228. Occurrence of art indicator

1. present ___ 2. absent ___

229. Emphasis on hair on head, glamorous

1. absent ___ 2. yes ___ 3. no ___

230. Hair evident in specific places (i.e., head, chest, eyelashes, moustache, beard)

1. absent ___ 2. yes ___ 3. excessive ___

231. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

Eyebrows

232. Occurrence of art indicator

1. present ___ 2. absent ___

233. Type

1. absent ___ 2. faint ___ 3. trimmed ___ 4. bushy ___

Neck

234. Occurrence of art indicator

1. present ___ 2. absent ___

235. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

236. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

5. scars/hickey ___

237. Long, thin

1. absent ___ 2. yes ___ 3. no ___

238. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___

8. average, interrupted ___

9. heavy, interrupted ___

239. Presence of Adam's Apple

1. absent ___ 2. yes ___ 3. no ___

240. **Facial Expression**

1. no expression/ambivalent ___

2. happy ___ 3. sad ___ 4. angry ___ 5. fearful ___

Contact Features

Arms

241. Occurrence of art indicator

1. present ___ 2. absent ___

242. Incorrect number of arms/presence of 1 arm

1. absent ___ 2. right number ___ 3. wrong number ___

243. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

244. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

245. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___

8. average, interrupted ___

9. heavy, interrupted ___

246. Arm placement

1. absent ___
2. behind back ___
3. in pocket ___
4. away from body ___
5. hang limply ___
6. pressed close and tense towards body ___
7. arms/hands at genital region ___
8. one or both hands on waist ___

247. Malplacement of arms

1. absent ___
2. correctly placed ___
3. attached to head/neck ___
4. attached to trunk under shoulders ___

Hands

248. Occurrence of art indicator

1. present ___ 2. absent ___

249. Type of hand

1. absent ___
2. mitten-like, circular ___
3. mitten-like, circular, bar-like (with fingers) ___
4. gloves on hands ___

250. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

Fingers

251. Occurrence of art indicator

1. present ___ 2. absent ___

252. Dimension

1. absent ___ 2. one ___ 3. two ___ 4. three ___

253. Number of fingers

1. absent ___ 2. right number ___ 3. wrong number ___

254. Speared

1. absent ___ 2. yes ___ 3. no ___

255. Clenched fist

1. absent ___ 2. yes ___ 3. no ___

Legs

256. Occurrence of art indicator

1. present ___ 2. absent ___

257. Incorrect number of legs (except profile)

1. absent ___ 2. yes ___ 3. no ___

258. Muscular legs

1. absent ___ 2. yes ___ 3. no ___

259. Legs pressed together

1. absent ___ 2. yes ___ 3. no ___

260. Legs floating in space

1. absent ___ 2. yes ___ 3. no ___

261. Size of legs

1. absent ___ 2. small ___ 3. average ___ 4. large ___

5. one large/one small ___

262. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___

8. average, interrupted ___

9. heavy, interrupted ___

263. Appropriate position

1. absent ___ 2. yes ___ 3. no ___

Feet

264. Occurrence of art indicator

1. present ___ 2. absent ___

265. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

266. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

267. Characteristics

1. absent ___
2. no heel, no toes; shape - golf-club head, oval, square ___
3. heel shown (profile), right number of 2-dimensional toes, foot in anterior view (shoe outlined) ___
4. toes confined by shoes ___

268. Feet in phallic shape

1. absent ___ 2. yes ___ 3. no ___

Trunk

269. Occurrence of art indicator

1. present ___ 2. absent ___

270. Proportion

1. absent ___
2. incomplete ___
3. open bottom ___
4. average size of whole drawing related to intra-whole ___
5. unusual size of whole drawing related to intra-whole ___

271. Symmetry

1. absent ___
2. asymmetrical drawing ___
3. symmetrical ___
4. over-symmetrical drawing-rigidity ___

272. Dimension/Presentation

1. absent ___ 2. one ___ 3. two ___ 4. three ___

273. Shading

1. absent ___ 2. no ___ 3. partial ___ 4. full ___

Detail

274. Relevant details *

1. absent ___

2. none ___

3. one ___ 4. two ___ 5. three ___ 6. four ___ 7. five+___

275. Irrelevant details *

1. absent ___

2. none ___

3. one ___ 4. two ___ 5. three ___ 6. four ___ 7. five+___

276. Complexity of detail

1. absent ___

2. simple ___

3. complex ___

277. Erasure

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

278. Reinforcement

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

279. Shape

1. absent ___
2. conventional ___
3. unconventional ___

280. Predominant line quality

1. absent ___

(faint) 2. ___ 3. ___ 4. ___ 5. ___ 6. ___ (extreme force)

7. fine, interrupted ___
8. average, interrupted ___
9. heavy, interrupted ___

281. Size

1. absent ___
2. average ___
3. large ___
4. tiny ___

282. Grotesque shape

1. absent ___ 2. yes ___ 3. no ___

Breasts

283. Occurrence of art indicator

1. present ___ 2. absent ___

284. Accentuated

1. absent ___ 2. yes ___ 3. no ___

285. Size

1. absent ___ 2. small ___ 3. average ___ 4. large ___

286. Transparency

1. absent ___ 2. yes ___ 3. no ___

Shoulders

287. Occurrence of art indicator

1. present ___ 2. absent ___

288. Proportion

1. absent ___
2. incomplete (i.e., one shoulder) ___
3. average size of whole drawing related to intra-whole ___
4. unusual size of whole drawing related to intra-whole ___

289. Symmetry

1. absent ___
2. asymmetrical drawing ___
3. symmetrical ___
4. over-symmetrical drawing-rigidity ___

290. Erasure

1. none ___ 2. low ___ 3. moderate ___ 4. high ___

Hips, Buttocks

291. Occurrence of art indicator

1. present ___ 2. absent ___

292. Break in drawing line

1. absent ___ 2. yes ___ 3. no ___

293. Widening or exaggerated hipline

1. absent ___ 2. yes ___ 3. no ___

Waistline

294. Occurrence of art indicator

1. present ___ 2. absent ___

295. Reinforcement (or belted)

1. absent ___ 2. yes ___ 3. no ___

296. Asymmetrical, crooked

1. absent ___ 2. yes ___ 3. no ___

Joints (Irrelevant detail)

297. Occurrence of art indicator

1. present ___ 2. absent ___

Clothing: General characteristics (Relevant detail)

298. Occurrence of art indicator

1. present ___ 2. absent ___

299. Qualities of clothing

1. absent ___
2. clothing suggested by shading ___
3. overclothed (5 or more items) ___
4. underclothed (0-1 items) ___
5. figure wearing 2-4 items ___
6. figure nude with sexual organs drawn ___

Clothing: Specific Characteristics (Relevant detail)

Conspicuous buttons

300. Occurrence of art indicator

1. present ___ 2. absent ___

301. Characteristics

1. absent ___
2. centre button emphasis ___
3. button(s) on cuff ___
4. centre buttons and cuff buttons ___

Pockets

302. Occurrence of art indicator

1. present ___ 2. absent ___

303. Presence of one or more

1. absent ___ 2. yes ___ 3. no ___

Tie

304. Occurrence of art indicator

1. present ___ 2. absent ___

Shoes

305. Occurrence of art indicator

1. present ___ 2. absent ___

306. Elaborate

1. absent ___ 2. yes ___ 3. no ___

Hat

307. Occurrence of art indicator

1. present ___ 2. absent ___

308. elaborate

1. absent ___ 2. yes ___ 3. no ___

Irrelevant details: Special Symbols

Pipe

309. Occurrence of art indicator

1. present ___ 2. absent ___

Cigarette

310. Occurrence of art indicator

1. present ___ 2. absent ___

Gun

311. Occurrence of art indicator

1. present ___ 2. absent ___

Cane

312. Occurrence of art indicator

1. present ___ 2. absent ___

Zipper on trousers

313. Occurrence of art indicator

1. present ___ 2. absent ___

Belt buckle

314. Occurrence of art indicator

1. present ___ 2. absent ___

Light vertical line in centre of trunk

315. Occurrence of art indicator

1. present ___ 2. absent ___

Presence of genitals

316. Occurrence of art indicator

1. present ___ 2. absent ___ 3. shading of genital area ___

Monster, grotesque figure

317. Occurrence of art indicator

1. present ___ 2. absent ___

Cartoon figure

318. Occurrence of art indicator

1. present ___ 2. absent ___

Two or more figures

319. Occurrence of art indicator

1. present ___ 2. absent ___

Presence of clouds with figure

320. Occurrence of art indicator

1. present ___ 2. absent ___

Presence of rain or snow with figure

321. Occurrence of art indicator

1. present ___ 2. absent ___

322. Presence of flying birds with figure

1. present ___ 2. absent ___

Figure Indexes of Anxiety (Handler, 1967)

Transparency

323. Occurrence of art indicator

1. present ___ 2. absent ___

324. Transparency of part of body

1. absent ___ 2. yes ___ 3. no ___

325. Transparency of article of clothing

1. absent ___ 2. yes ___ 3. no ___

326. Number of transparencies

1. absent ___ 2. one ___ 3. two ___ 4. three ___

Shading

Head/face

327. Occurrence of art indicator

1. present ___ 2. absent ___

Neck

328. Occurrence of art indicator

1. present ___ 2. absent ___

One hand/both hands

329. Occurrence of art indicator

1. present ___ 2. absent ___

One foot/both feet

330. Occurrence of art indicator

1. present ___ 2. absent ___

One leg/both legs

331. Occurrence of art indicator

1. present ___ 2. absent ___

One arm/both arms

332. Occurrence of art indicator

1. present ___ 2. absent ___

Trunk

333. Occurrence of art indicator

1. present ___ 2. absent ___

334. Number of areas of shading

1. none ___
2. one body area ___
3. two body areas ___
4. more than two body areas ___

Erasure

Head (face)

335. Occurrence of art indicator

1. present ___ 2. absent ___

Neck

336. Occurrence of art indicator

1. present ___ 2. absent ___

One hand/both hands

337. Occurrence of art indicator

1. present ___ 2. absent ___

One foot/both feet

338. Occurrence of art indicator

1. present ___ 2. absent ___

One leg/both legs

339. Occurrence of art indicator

1. present ___ 2. absent ___

One arm/both arms

340. Occurrence of art indicator

1. present ___ 2. absent ___

Trunk

341. Occurrence of art indicator

1. present ___ 2. absent ___

Erasure on two body areas

342. Occurrence of art indicator

1. present ___ 2. absent ___

Erasure on three or more body areas

343. Occurrence of art indicator

1. present ___ 2. absent ___

344. **Reinforcement**

1. none ___
2. less than 1/4 of figure is reinforced ___
3. 1/4 of figure is reinforced ___
4. 1/2 of figure is reinforced ___
5. 3/4 of figure is reinforced ___

Summary of omissions

345. Head omission

1. yes ___ 2. no ___

346. One arm/both arms omission

1. yes ___ 2. no ___

347. One hand/both hands omission

1. yes ___ 2. no ___

348. One leg/both legs omission

1. yes ___ 2. no ___

349. One foot/both feet omission

1. yes ___ 2. no ___

350. Trunk omission

1. yes ___ 2. no ___

351. Neck omission

1. yes ___ 2. no ___

352. Hair omission

1. yes ___ 2. no ___

353. Eyes omission

1. yes ___ 2. no ___

354. Nose omission

1. yes ___ 2. no ___

355. Mouth omission

1. yes ___ 2. no ___

356. Ear(s) omission

1. yes ___ 2. no ___

357. Eyebrows omission

1. yes ___ 2. no ___

358. Number of body parts omitted

1. none ___
2. one ___
3. two ___
4. three or more ___

Delineation of line absence

359. Is there delineation line absence?

1. yes ___ 2. no ___

360. Delineation line absence on sleeve cuffs/arm holes

1. yes ___ 2. no ___

361. Delineation line absence on neckline

1. yes ___ 2. no ___

362. Delineation line absence on belt line for male drawing

1. yes ___ 2. no ___

363. Delineation line absence on trouser cuffs/skirt hem

1. yes ___ 2. no ___

Emphasis Lines

364. Occurrence of art indicator

1. present ___ 2. absent ___

365. Number of emphasis lines

1. none ___
2. 1 or 2 emphasis lines present ___
3. 3 emphasis lines are present ___
4. 4 or more emphasis lines are present ___

366. Distortion

1. none ___
2. 1 or 2 body parts distorted ___
3. 1/2 of drawing out of proportion ___
4. more than 1/2 of drawing distorted ___

Post Drawing Inquiry

The H-T-P Questionnaire for Guide

THE PERSON

367. Determination of sex. Is this a (boy, girl, man, woman)?

1. male ___. 2. female ___ 3. no response ___

368. Age

1. no response ___
2. 1-9 ___
3. 10-17 ___
4. 18-21 ___
5. 22-35 ___
6. 36+ ___

369. Determination of person

1. no response ___
2. nobody ___
3. self ___
4. real ___
5. ideal ___
6. psychological ___
7. family ___
8. friend ___
9. other ___

370. Of whom were you thinking while drawing?

1. no response ___
2. nobody ___
3. self ___
4. real ___
5. ideal ___
6. psychological ___
7. family ___
8. friend ___
9. other ___

371. What is this Person feeling?

1. no response ___
2. happy ___
3. angry ___
4. sad ___
5. fearful ___

The Tree

372. Age

1. no response ___
2. 1-9 ___
3. 10-17 ___
4. 18-21 ___
5. 22-35 ___
6. 36+ ___

373. Type

1. no response ___
2. dead tree ___
3. alive tree ___

374. Location

1. no response ___
2. park ___
3. forest ___
4. house-back yard ___
5. house-front yard ___
6. other ___

375. Is that tree by itself? Within a group of trees?

1. no response ___
2. tree alone ___
3. tree in group ___

Details on the Tree

376. Branches

1. no response ___ 2. present ___ 3. absent ___

377. Roots

1. no response ___ 2. present ___ 3. absent ___

378. Scars

1. no response ___ 2. present ___ 3. absent ___

The House

379. Belongs to whom

1. no response ___
2. nobody ___
3. self ___
4. ideal ___
5. family ___
6. friend ___
7. other ___

380. Time

1. no response ___
2. past ___
3. present ___
4. future ___

Obtain details

381. Bedroom

1. no response ___ 2. yes ___

382. Living room

1. no response ___ 2. yes ___

383. Washroom

1. no response ___ 2. yes ___

384. Kitchen

1. no response ___ 2. yes ___

385. Presence of curtains

1. no response ___ 2. yes ___

386. Presence of doors

1. no response ___ 2. yes ___

387. Self lives in house

1. no response ___ 2. yes ___

388. Family

1. no response ___ 2. yes ___

389. Friend

1. no response ___ 2. yes ___

390. Other

1. no response ___ 2. yes ___

391. Distance (Is House close by or far away?).

1. no response ___
2. close house ___
3. far away house ___

392. Describe the view of this house.

1. no response ___
2. house above (worm's eye view) ___
3. house below (bird's eye view) ___

393. Feelings toward the house

1. no response ___
2. friendly ___
3. warm ___
4. sad ___
5. happy ___
6. angry ___
7. cold ___

Relevant & Irrelevant Details of H-T-P Drawings

***Item (14)**: Relevant Details - there may be one of the following details or more. The rater counts the number of roof(s), wall(s), Door(s) and windows(s) and places that number (range 1-5+) on the scoring sheet.

***Item (15)**: Irrelevant Details - there may be one of the following details or more. The rater counts the number of nearby irrelevant details: porch(es), step(s), chimney(s), smoke, storey(s), walkway(s), shrubbery, tree(s), flower(s), facing(s), groundline, shadow(s) and degrading detail(s). The rater places the appropriate number (range 1-6) on the scoring sheet.

***Item (105)**: **Relevant details**: trunk, bark, roots, baseline crown: branches, branch system, foliage (leaves), branch system baseline, branch endings.

***Item (106)**: **Irrelevant details**: grass, type of tree, special signs.

***Item (171)**: Relevant details - head, eyes, nose, mouth, lips, chin, ear, hair, eyebrows, neck, arms, hands, fingers, legs, feet, trunk, breasts, shoulders, hips-buttocks, waistline, clothing

*Item (172): Irrelevant details - joints, genitalia, belly button, nipples, body hair, teeth, moustache, beard, buttons, belt, jewellery (hair details), nail polish, makeup, special symbols

*Item (190): Relevant details (1-5+) (eyes, nose, mouth, lips, ears, hair, chin)

*Item (191): Irrelevant details (1-5+) (eye/face makeup, earrings, glasses, hair decorations, moustache, beard)

*[illegible]: Relevant details (1-5+) (Trunk: Breasts, shoulders, hips/buttocks, [illegible] clothing)

*[illegible]: Irrelevant details (1-5+) (Trunk: Joints, muscles, genitalia, buttons, belt, belly buttons, nipples, body hair)

APPENDIX D

II. House-Tree-Person Scoring Analysis Guide

(53 Variables Found to Differ Between Disturbed and Normal Subjects)

The House Drawing

1. Roof material

   0. shading ___ diagonal lines ___ other ___

   1. absent (roof) ___ none (roof material) ___ blocking ___

2. Shape of roof

   0. conventional ___

   1. absent ___ unconventional ___

3. Baseline evident for wall

   0. yes ___ 1. no ___

4. Proportion (door to whole house)

   0. average size ___

   1. absent ___ unusual size ___

5. Proportion of window

   0. average ___

   1. absent ___ unusual ___

6. Symmetry of window

   0. symmetrical ___

   1. absent ___ asymmetrical ___

7. Presence of window curtains, shutters

   0. yes ___ 1. no ___

8. Presence of window locks, bars

   0. no ___

   1. yes (locks/bars) ___ window absent ___

Nearby Irrelevant Details:

9. Ladder-like steps (no depth)

   0. no___

   1. absent steps ___ yes ___

Degrading Details

10. Occurrence of art indicator

   0. absent ___

   1. present ___

The Tree Drawing

11. Shading

   0. partial ___ full ___

   1. no ___

12. Margin deviance - paper chopped

   0. no ___ 1. yes ___

13. Relevant details of tree

   0. 4 details ___ 5 details ___

   1. one detail ___ two details ___ 3 details ___

14. Movement

   0. no graphic suggestion of movement ___

   1. graphic suggestion of movement ___

Relevant Details:

The trunk

15. Shading

    0. partial ___ full ___

    1. absent ___ no ___

Bark

16. Occurrence of art indicator

    0. absent ___

    1. present ___

Baseline (groundline)

17. Direction of baseline

    0. centre ___

    1. absent ___ right ___ left ___

18. Curved

    0. no ___

    1. absent ___ yes ___

Crown: (branches)

19. Dimension/Presentation

    0. two ___ three ___

    1. absent ___ one ___

Foliage (leaves)

20. Occurrence of art indicator

    0. present ___

    1. absent ___

21. Dimension/Presentation

    0. two ___ three ___

    1. absent ___ one ___

22. Shading

    0. partial ___ full ___

    1. no ___

23. Type of leaves

    0. many leaves ___ huge leaves ___

    1. absent - no leaves one or a few clearly drawn leaves ___

       leaves falling down ___

Branch System Baseline

24. Occurrence of art indicator

    0. present ___

    1. absent ___

25. Branch Endings

    0. covered ends by foliage ___ branches hidden ___

    1. absent ___ sawed off/broken ___ fish hook endings ___

       criss-cross ___ spear-like ___ wavy (tapering off) ___

       other ___

Irrelevant Details

Type of Tree

26. deciduous (oak, maple, fruit, realistic)

    0. not deciduous ___ fruit ___ poplar ___ palm ___

       realistic open leafy tree ___

    1. winter ___ willow ___ abstract deciduous ___

The Person Drawing

27. Shading

    0. partial ___ full ___

    1. no ___

Social Features

Head

28. Shading

    0. partial ___ full ___

    1. absent ___ no ___

29. Irrelevant details

    0. four ___ five+ ___

    1. absent (head) ___ one ___ two ___ three ___

Eyes

30. Eyes shown by dots, hollow circles, ovals, squares, horizontal lines (omission of pupil)

    0. no ___

    1. absent ___ yes ___

31. Eyes shown with 2-dimensional socket and pupils indicated by dots, circles

    0. yes ___

    1. absent ___ no ___

Mouth

32. Size

    0. average ___

    1. absent ___ large ___ tiny ___

Hair

33. Hair evident in specific places (i.e., head, chest, eyelashes, moustache. beard)

    0. yes ___

    1. absent ___ excessive (inappropriate hair on any place on body) ___

34. Shading

    0. partial ___ full ___

    1. absent ___ no ___

Eyebrows

35. Occurrence of art indicator

    0. present ___

    1. absent ___

36. **Facial Expression**

    0. no expression/ambivalent ___ happy ___

    1. sad ___ angry ___ fearful ___

Contact Features

Hands

37. Size of hands

    0. average ___

    1. absent ___ large ___ tiny ___

Trunk

38. Size

    0. absent ___

    1. small ___ average ___ large ___

Irrelevant Details

Special symbols

Presence of genitals

39. Occurrence of art indicator

    0. absent ___

    1. present ___ shading of genital area ___

Figure Indexes of Anxiety

Shading

Head/face

40. Occurrence of art indicator

    0. present ___

    1. absent ___

Trunk

41. Number of areas of shading

0. one body area ___ two body areas ___ more than two body areas ___

1. none ___

Summary of Omissions

42. Eyebrows omission

0. no ___

1. yes ___

Delineation of line absence (absence of lines on the body)

43. Is there delineation line absence on neckline?

0. no ___

1. yes ___

44. **Distortion**

0. none ___

1. 1 or 2 body parts distorted ___ 1/2 of drawing out of proportion ___

more than 1/2 of drawing distorted ___

Post Drawing Inquiry

The Person

45. Age

0. 18-21 ___ 22-35 ___ 36+ ___

1. no response ___ 1-9 ___ 10-17 ___

46. Feelings of Person

0. happy ___

1. no response ___ angry ___ sad ___ fearful ___

The Tree

47. Age

    0. 1-9 ___ 10-17 ___ 18-21 ___ 22-35 ___ 36+ ___

    1. no response ___

48. Type

    0. alive tree ___

    1. no response ___ dead tree ___

49. Location

    0. forest ___ house-back yard ___ house-front yard ___ other ___

    1. no response ___ park ___

50. Branches

    0. present ___

    1. absent ___ no response ___

The House

51. Bedroom

    0. yes ___

    1. no response ___

52. Kitchen

    0. yes ___

    1. no response ___

53. Distance

    0. far away house ___

    1. no response ___ close house ___

APPENDIX E

Post-Drawing Inquiry for the House-Tree-Person Questionnaire

H.L. Janzen (Adapted from E. Hammer) 1986

Name: _____ Birthdate: _____

Age: _____ Sex: _____

Date: _____

School: _____

The Person (Self, ideal, real, psychological)

1. Determination of sex. **Is this a (boy, girl, man, woman)**?
2. Age (**how old**)?
3. Determination of person (**self, real, ideal**, psychological, other). Who is he?
4. **Of whom were you thinking while drawing**? Why
5. What is this person doing? thinking? feeling? Why?

The Tree (Interpersonal, Environmental, Life and Growth)

1. What kind of tree is it? (**age, alive, location**)
2. Is that tree by itself? Within a group of trees?
3. Ask about details on the tree (branches, roots, scars). (Describe/discuss)

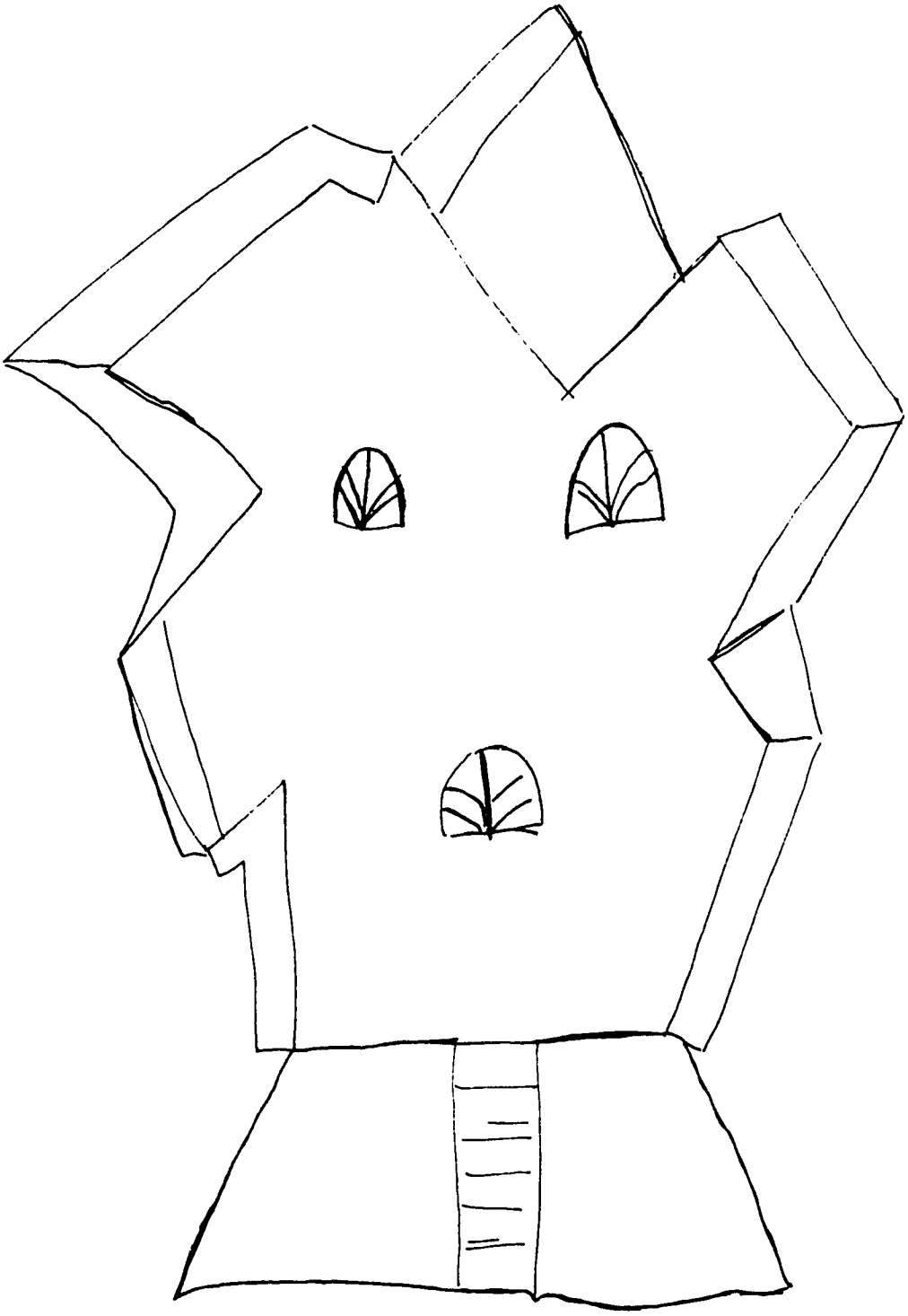
The House (Home-life, intra-familial, emotional atmosphere)

1. **Whose house is it**? (own, other, ideal, past, present, future)
2. Obtain **details (rooms, curtains, doors, who lives there**, etc.)
3. Distancing (**Is this house close by or far away**?)
4. **Describe how you feel about this house** (above, below, friendly, cold, etc.).

APPENDIX F

Disturbed Group: Examples of House-Tree-Person Illustrations

House: Male, Age 12



Tree: Male, Age 13

Person: "Man Woman," Female, Age 16