CHAPTER TWO

REVIEW OF LITERATURE

2.0 Introduction to the Chapter

In this review, literature relating to children's art is reported under the following headings:

2.1 Classification of developmental stages
   2.1.1 Scribbling or manipulative stage
   2.1.2 Symbolic or schematic stage
   2.1.3 Representational or realistic stage

2.2 The drawing process in children

2.3 Expressive aspects of art in children
   2.3.1 Cognitive indicator
   2.3.2 Personality indicator
   2.3.3 Emotional indicator
   2.3.4 Trauma indicator

2.4 Summary

2.1 Classification of developmental stages

The data from numerous cross-sectional studies of children's drawings have provided an empirical foundation for children's drawings to be categorized into three development-
tal stages: scribbling or manipulative, symbolic or schematic and representational or realistic. Each of the stages is characterized by distinct features in the drawings.

2.1.1 Scribbling or manipulative stage

Children between the age of eighteen months to about two-and-a-half years make marks or scribbles which many investigators agree do not represent anything. Luquet (1913) and Piaget and Inhelder (1969) considered these scribbles to be pure play and exercise while Arnheim (1956) described them as mere presentations. However, these scribbles start to take the form of pictures which are interpreted as representations of something in the next stage.

2.1.2 Symbolic or schematic stage

Children at the age of two enjoy making marks which consist of undifferentiated and irregular forms. These gradually become identifiable as circles, triangles and squares. According to Kellogg (1969), when these shapes are superimposed they become diagrams, combines and aggregates. A frequently occurring example of a combine is a cross superimposed on a circle called the mandala. The other important shapes in children’s drawings, according to Kellogg, are suns, circles and radials. It is from mandalas and sun-schemas that the first representations of the human figure finally emerge. A typical drawing of a human
figure consists of a circle for the head and two dangling lines for legs referred to as a tadpole figure. Marks within the circle may be used to signify facial details, such as eyes and mouth. The tadpole schema is used for a variety of purposes, signifying different people or even animals. Through this activity, children begin to create basic elements of symbolism in art. When children reach the age of four years, they use symbols to express their ideas and feelings. These personal symbols are probably developed from impressions of objects that children perceive through their senses and attempts are made to represent the appearance of the topic depicted. In these symbols too, the children communicate the excitement or problems of their personal experience. The term symbolic realism is sometimes used to describe this type of drawing (Barrett & Light, 1976).

2.1.3 Representational or realistic stage

As children get older, their drawings become increasingly realistic in terms of scaling and detail. The human figure drawings have progressed beyond the tadpole schema and into the conventional form. At the age of five or six years, children draw a separate head and trunk with additional details such as hands, fingers and clothing. Drawings made by children aged five to seven years also contain elements which the children know to exist but are not normally seen. This result is called transparency or 'X-ray' drawing. Luquet (1913) had termed this stage intellectual realism. Freeman (1980) had classified these X-ray
drawings into two types. First, there are the drawings in which something is depicted that is usually never visible in the real world—for example a fly in a spider’s stomach. In the second type of transparency, the children fail to show occlusion—for example, in drawing a man on horseback, the normally hidden far leg can be seen through the body of a horse.

Children’s involvement in symbolism usually starts declining after the age of eight or nine years. They now face new challenges of making things look real in the drawing. They are more aware of their surroundings and start to form true visual images to external objects. They also begin to draw from a particular viewpoint and proportions and relationships are worked out accordingly. This latter stage of drawing development had been termed visual realism by Luquet (1913). Gardner (1980) said that, with increasing visual realism, older children often appear dissatisfied with their drawings because of their inability to achieve the effects they desire. Thus, drawings are replaced by language as a medium of self-expression.

2.2 The drawing process in children

Human figure drawings appear to be one of the earliest topics that children draw and remain to be popular throughout childhood. In a study of the drawings of 864 children between the ages of six and fifteen years, Lark-Horovitz, Barnhart and Sills (1939) found that the human figure was the most frequently drawn topic.
Children's early attempts at drawing human figures are called tadpole forms. Freeman (1980) after reviewing a number of studies stated that tadpole forms are usually drawn by children around the ages of three to four years. Gesell (1925) estimated that between 20 to 49 percent of four-year-olds produced a head-legs figure while Taylor and Bacharach (1981) found that 42 percent of three-year-olds and 45 percent of four-year-olds produced tadpole drawings. By the age of 5 years, most children draw a conventional figure consisting of a torso drawn between the head and the legs and arms.

There are a few longitudinal studies which demonstrate that children go through a tadpole stage before moving on to the conventional form. Cox and Parkin (1986) carried out such a study with six children between the ages of two years seven months and two years nine months over a one-year period. Human figure drawings were drawn at two-monthly intervals to obtain a complete record of their drawing development. These children's spontaneous drawings were also collected. The finding revealed that four out of the six children produced tadpole figures before moving to the conventional form. Some of the children in Cox and Parkin's study exhibited a short but distinct tadpole phase which was followed by the conventional form while others exhibited a longer period of six to ten months. These findings suggest that tadpole figures are drawn by children around the ages of three to four years.

The conventional figure is drawn around the age of five
or six years. Buck (1977) said the sequence in drawing a conventional human figure is typically the head first, followed by the facial features, then the neck, the upper trunk, the legs and finally the feet. Initially, the children add the body parts as separate items. This gives the figure a segmented appearance. For example, each body part has its own complete boundary which is then placed close together in the correct spatial arrangement to depict a human form. However, the segmented form is replaced by the contoured form between the ages of five to seven years. The contoured figure consists of an outline of a human figure as if tracing its silhouette. In this way, the arms and the torso or the legs and the torso are drawn as a continuous line giving the figure a more fluid appearance.

Cox (1993) conducted a study involving 118 five- to six-year-olds, 127 seven- to eight-year-olds and 99 nine- to ten-year-olds on the age-related transition from segmentation to contouring. Cox found that 74 percent of the five- to six-year-olds produced segmented figures, 81 percent of the seven- to eight-year-olds used some form of contouring and 96 percent of the nine- to ten-year-olds produced contoured figures. The finding suggests that children depict the human figures in the contoured form at the age of about eight years. Fenson (1985) suggested two reasons to explain the change from a segmented to contouring style. Firstly, as children strive for realism, segmented parts of a figure are not apparent in real figures therefore they are abandoned. Secondly, children start to depict figures engaged in some activity which lead them to discover more
flexible modes of representation.

In the conventional form, children prefer to present the human figure in its canonical orientation. This typical arrangement consists of a figure facing the viewer with legs apart and arms held away from the torso. This view clearly displays all the features of a person. Profile figures are quite rare. This observation was made by Cox (1993) when he studied children's standard human figure drawings at three different age levels: five- to six-year-olds (N = 118), seven- to eight-year-olds (N = 127) and nine- to ten-year-olds (N = 99). Cox classified a figure as being in profile if it showed any of the following body parts in profile: legs/feet, arms, head and torso. Fourteen percent of the five- to six-year-olds, 17 percent of the seven- to 8-year-olds and 21 percent of the nine- to ten-year-olds drew profile figures. One of the main reasons for the low occurrence of profile figures was that in the standard "draw a person" task, children are more concerned in drawing the most detailed and recognizable figure they can, and this usually means that they choose to draw a canonical figure. However, when these children were asked to draw a person in action, there was an increase in the frequency of profile figures: 57 percent of the five- to six-year-olds drew canonical figures while 70 percent of the seven- to eight-year-olds and 84 percent of the nine- to ten-year-olds drew profile figures. These findings suggest that profile figures do not appear in human figure drawings until about the age of eight or nine years.

Although the majority of studies reviewed are only
concerned with European and North American children, there seems to be many similarities in the drawing development of children from different countries, at least up to the age of seven or eight years. Some investigators, such as Kellogg (1970), stated that there is a universal pattern of development in children's drawing and art. Admittedly, many researchers have reported differences in the human figure drawings in different cultural groups due to the availability of drawing materials and the importance of artistic skills. These have an influence on the end product in many cultures. Alland (1983) found that children in different cultures differed in drawing styles and also in the basic strategies used to construct their drawings. Harris (1963) found a superior drawing ability among 318 Eskimo children with a long tradition of carving bone, ivory and soapstone. Havighurst, Gunther and Pratt (1946) compared drawings of six- to eleven-year-old American Indian children in six different tribes with those of White American children. They found that these children had higher scores compared to the drawings of White American children. This is because Indian children practised drawing more than American children. Paget (1932) found that the proportion of Maori children in New Zealand who drew profile figures rose from 61 percent at age five years to 88 percent at age eight years. Fortes (1981) also found a higher proportion of Tallensi children making profile drawings in the 1970s.

Cox (1993) and Winner (1989) also found that the Chinese children's drawing skills, in general, are considerably more advanced than those of children in the West. Winner attributed
this ability to the fact that graphic arts are held in high esteem and formal tuition in calligraphy, drawing and painting begins in kindergarten. Dennis (1960) found that, among the Bedouin children, drawing is rarely practised and so their drawing is very basic and poor in detail. Cox and Bayraktar (1989) conducted a study in Turkey and found that pictures were infrequently seen as drawing is rarely practised.

2.3 Expressive aspects of art in children

Drawings are a powerful tool of self-expression as they reflect children's intellectual development, personality and emotion. During the early stage of the use of projective drawings as a measurement of intellectual maturity, it became apparent that certain drawings also projected aspects of the drawer's personality (Hammer, 1980). Even Goodenough (1926) who was primarily concerned with the use of drawings to assess intelligence, noted that they could be used to evaluate children's emotions. More recently, Waterman, Erhardt, Kelly, McCord and Olveri (1988) demonstrated the importance of children's drawings as an indicator of trauma. The different kinds of information presented by children's drawings are discussed under the following sections:

(a) cognitive indicator
(b) personality indicator
(c) emotional indicator
(d) trauma indicator
2.3.1 Cognitive Indicator

Freeman (1980) said that drawing a picture requires considerable cognitive work for its successful accomplishment while Arnheim (1969) believed that all thinking is perceptual in nature as images are involved. Hence, drawings can be used as an indicator of children's intellectual ability as art requires effort as well as thinking.

Schuyten (1904) noted that with children's increasing chronological age, the number of body parts in the figure increased and the proportions of the body parts became more realistic. But in 1913, Rouma observed that changes in children's drawings were more strongly related to their increasing mental age than to their chronological age. The use of human figure drawings to establish a set of age norms indicating children's general level of intellectual ability was only made successful 20 years later by Florence Goodenough.

The Draw-a-Man test was developed by Goodenough (1926) based on the assumption that drawing is a direct expression of children's cognitive status. This was based on the notion that progress in drawing goes hand in hand with the growth of conceptual skills. Children were asked to draw the very best picture of a man. Their drawings were then credited with points according to the number of body parts drawn, the proportions of the parts and the way that the parts were attached to the main figure. Fifty-one details/items of the human figure were identified to indicate the degree of children's intellectual maturity. The
points were then converted to a Goodenough Intelligence Quotient. An example of using drawings in the Draw-a-Man test to arrive at a IQ is presented in Appendix A.

In general, the reliability of the Draw-a-Man test appears to be reasonably high. Goodenough (1926) reported a correlation of 0.937 between figures completed on two successive days by 197 seven-year-olds. Other researchers had also tested the reliability of Goodenough's Draw-a-Man test. McCarthy (1944) examined two sets of drawings of 386 children in the third and fourth grades with an inter-test interval of 1 week. A correlation of 0.94 was reported when the drawings were scored by the same scorers and 0.90 when scored by different scorers. Yepsen (1929) found a similar high test-retest correlation of 0.90 while McCurdy's (1947) correlation of 0.69 based on 56 first-grade children was lower but still significant. In contrast, Griffiths (1945) found that the assessed mental age of a girl aged 3 years 10 months varied from 3 years 9 months to 4 years 6 months during a 20-day period.

The validity of the test is much more variable. Review by Harris (1963) stated that the correlation between the Draw-a-Man test and other tests of intelligence varied considerably depending on the age range of the subjects and the age range included in the sample. When Goodenough (1926) correlated the Goodenough IQ Scores and Stanford-Binet IQ Scores of children aged between 4 and 10 years, the 5-year-olds had the lowest correlation of 0.699 while the 4-year-olds had the highest corre-
lation of 0.863. Yepsen's (1929) correlation between the Goodenough IQ and Stanford-Binet IQ was 0.60 while William (1935) recorded a correlation of 0.65.

In 1963, Harris revised the Draw-a-Man test extending the list from 51 to 71 items. Both he and Goodenough regarded it as a measure of conceptual maturity which measured children's actual rather than their potential level. The notion of conceptual maturity is the ability to perceive and discriminate similarities and differences, the ability to abstract and the ability to generalize or classify objects correctly. Therefore, children's drawing of an object is an index of their concept of that object. For example, the concept of a frequently experienced object such as a human being is a useful index of the growing complexity of children's concepts in general. The revised test also required children to make three drawings consisting of a man, a woman and a self-drawing. The intellectual maturity scores for boys and girls were averaged out to give a more accurate estimate of children's achievement. Separate norms for drawings of males and females were also provided.

Koppitz (1968) also devised a mental test based on the human figure drawings of nearly 2000 children aged between five to twelve years. She scored each figure according to 30 developmental items derived from the Goodenough-Harris test and from her own experiences of studying children's drawings. These developmental items were grouped into four categories for each age level: expected, common, not unusual and exceptional. For example, legs are an exceptional item in a 6-year-old's figure. If a
6-year-old has drawn legs, then the child scores +1 but if legs are absent, then a score of -1 is recorded. Exceptional features only occur in children of above-average mental maturity. A child’s total score is then converted to an IQ score. There was a positive and significant correlation between the number of developmental items on the Koppitz’s test and the score on a standard IQ test. Koppitz (1968) recorded a correlation of 0.63 with the Standard-Binet test at ages 6 and 7 years and 0.62 at ages 11 and 12 years while correlations with the Wechsler Intelligence Scale for Children was 0.60 at ages 6 and 7 years and 0.80 at age 12 years.

The IQ tests developed based on children’s drawings of the human figure were reasonably reliable and valid and have been used extensively with children to identify their cognitive ability.

2.3.2 Personality Indicator

In 1949, Karen Machover assessed personality by producing a figure drawing test called the Draw-a-Person test. It was based on the presumption that children project their self-image into the human figure drawings. In this test, each subject was required to draw two figures. The subject was given a blank sheet of paper (preferably A4 size), a soft lead pencil and an eraser. While the subject made the drawing, the tester noted the sequence of parts drawn as well as any points and questions raised by the subject. When this drawing was completed, the subject was given a fresh sheet of paper and asked to draw another
person of the opposite sex.

The first figure was interpreted as an expression of self and sex-role identification while the second figure was interpreted as a revelation of children's relationship with other important people in their lives. Machover's (1949) interpretation of the drawings also took into account the body parts drawn, the size, the shape, the position on the page, the quality of the line and the amount of erasure. Shading and erasure on the chest area indicated a sense of weakness while an oversized head showed intellectual aspiration. A heavy pressure of the pencil reflected a need for social participation and pronounced ears reflected an over-sensitivity to social opinion and criticism while an omission of pupils indicated self-centredness. Machover further stressed that sexual anxiety and conflict were indicated by extra shading on the trousers and a strong belt which cuts off the genital area. Scoring of the details of the human figure drawings was qualitative. Personality description of the subject was obtained by analyzing the features present in the drawings.

Machover (1949), in her original presentation of her figure drawing test, reported that her work was based on a substantial file of drawings. Machover had also conducted some small-scale studies to assess clinician's accuracy by matching drawings and case studies. However, Anastasi (1976) concluded that the better controlled studies gave no support for the personality interpretations proposed by Machover. However, Anastasi
agreed that projective drawing tests are still popular particularly with clinicians as they are easy to administer and are often enjoyed by patients. Nunnally (1978) stated that projective tests do not provide very valid measures of personality traits.

Machover's (1949) claim that the size of the figure reflected the subject's self-esteem was supported by Hammer (1958). But Bennett (1964) tested 198 sixth-graders (aged eleven to twelve years) while Prytula and Thompson (1973) tested ten- to thirteen-year-olds and found no relationship between self-esteem and size of figures. However, these studies did not first determine the subject's level of self-esteem. Dalby and Vale (1977) gave the Coopersmith Self-Esteem Inventory (Coopersmith, 1967) to 115 children aged ten to eleven years. The test required subjects to respond to two measures "like me" or "unlike me" to 50 self-evaluative statements. Five teachers also rated the subjects' self-esteem on a scale of 1 to 5. The subjects were also asked to draw themselves and two friends of the same age. The results reflected a significant relationship between the two measures of self-esteem but found no relationship between height of the self-figures and each of the two measures of self-esteem.

The problem associated with studying self-esteem of children is that before adolescence, the notion of "self" might be ambiguous or vaguely formed (Coopersmith, Sakai, Beardslee & Coopersmith, 1976). This prompted Delatte and Hendrickson (1982)
to use older subjects: 38 males and 38 females between the ages of sixteen to eighteen years. They also took precaution of measuring height, width and area of the figures. In line with Machover's psychoanalytic orientation that some subjects low on self-esteem may draw tiny figures while others may over-compensate their feelings by drawing very large figures (Machover, 1949), Delatte and Hendrickson found a relationship between self-esteem and height and area of the figures among older male teenagers.

After reviewing a wide range of Machover's claims, Swensen (1968) and Roback (1968) agreed that the use of the Draw-a-Person test can provide a fairly reliable global impression of children's personality. More recently, Kahill (1984) after reviewing the empirical evidence between 1967 to 1982 came to the same conclusion, that projective drawings can be used as a rough screening devise for determining children's personality.

2.3.3 Emotional Indicator

Similar to the way drawings have been used to depict children's personality, drawings have also been used to reveal emotional adjustment or disturbance. Koppitz (1968) assumed that drawings were a reflection of the current emotional states and looked at the distortions of the figure as symbolic representations of inadequacies. Koppitz found Harry Stack Sullivan's Interpersonal Relationship Theory more useful in her work than the psychoanalytic framework adopted by Machover (1949).
Koppitz examined the way individual body parts were drawn by children. Her approach took into account the changes in children's drawings which were characteristic of the normal drawing development. She believed that the presence or absence of a particular detail in a drawing can be clinically significant at one age but not at another age. In order to assess developmental changes in human figure drawings, Koppitz devised a classification of indicators. These indicators were based on the notion that deviations from the way figures are typically drawn at a certain age might give a clue to children's emotional states. The indicators covering the limbs, facial detail and clothing were eventually selected from the Goodenough-Harris scoring system and Koppitz's own clinical experience involving nearly 2000 children between the ages 5 and 12 years. These were items which occurred more frequently in the human figure drawings of disturbed children than normal children, were unusual in the drawings of normal children and were not solely related to age and maturation. Koppitz's (1968) then listed thirty emotional indicators that may be found in children's human figure drawings to assess their emotional states. Examples of emotional indicators were: poor integration of body parts, shading, asymmetry of limbs, absence of certain parts of the body such as the eyes, nose, mouth, legs, feet, neck, a figure height of more than 11 inches or less than 2 inches, a slant of more than 15 degrees from the vertical, very long or very short arms and the inclusion of extra items such as clouds, genitals, transparency and teeth.

In the Koppitz's (1968) test, the subject is given a
Sheet of A4 size paper, a pencil and an eraser by the subject is then instructed to draw a complete drawing. Koppitz placed importance on the presence of the examiner while the subject was drawing and on individual testing as opposed to group testing. The drawing was then scored according to Koppitz system (1968). Koppitz emphasized that the degree of mental or disturbance should be assessed according to the person's total number of emotional indicators in the drawing. It was also considered the subject's age as well his/her social and cultural background.

Koppitz compared the emotional indicators in the human drawings of two groups of children aged between five and eight years. Group 1 comprised 76 children attending ordinary schools who were judged by their teachers to be well-adjusted in their way while group 2 comprised 76 children who were patients in a child guidance clinic. The normal children produced a total of 22 emotional indicators in their drawings of the human face while the children from the clinic produced 166. Fifty of the 76 well-adjusted children had no emotional indicators at all in their drawing while 14 of them had one emotional indicator and 4 had two emotional indicators. In contrast, only 12 children in the clinical group drew figures with no emotional indicators while three-quarters of them drew two or more emotional indicators. Four indicators occurred significantly more often in the clinical group than in the normal group. These were poor integration of body parts, shading of body and/or face, slanting figure and tiny figure. Another four indicators...
occurred more often comprising a big figure, short arms, cut-off hands and omission of neck. However, the difference in the occurrence of these four features between the clinical and normal groups was smaller, being significant at 0.05.

Koppitz also compared the emotional indicators in the drawings of different groups of clinical subjects. Thirty-one children rated as aggressive displayed a total of 90 emotional indicators in their drawings compared to a matched group of thirty-one shy and withdrawn children who had 75 emotional indicators. The features included most often by the aggressive children were asymmetry of limbs (p<0.05), teeth (p<0.05), big hands (p<0.05), cut-off hands (p<0.05) and long arms (p<0.01). The shy children omitted the mouth more often than the aggressive children (p<0.01).

Koppitz made another comparison between 35 neurotic children with a history of stealing and a matched group of 35 children with a history of psychosomatic complaints such as stomach upsets and headaches. The group with a history of stealing had 96 emotional indicators in their drawings compared to the 78 emotional indicators of the psychosomatic group. The first group had more figures with big hands (p<0.05) and the omission of hands (p<0.01) while the children with psychosomatic complaints drew more figures with short arms (p<0.05).

A number of studies had also attempted to investigate whether drawings reveal children’s emotional states. Di Leo (1973) studied thousands of children’s drawings and found a
number of indicators of emotional disturbance in the drawings. These range from the omission of items which normal children would include such as torso, arms and mouth to the inclusion of genitalia that rarely occur in normal children's drawings. The other features were the exaggeration or diminution of certain body parts, unconnected or scattered body parts, unusual proportions of the figure, shading and grotesque forms. Di Leo related his claims based on a body of expert opinion as well as his own long experience in studying children's drawings.

Lewis and Greene (1983) showed that the analysis of children's drawings is a valuable aid in assessing children with emotional problems and discovering the cause of their difficulties. They noted "signs of anxiety" in self-portraits of emotionally-disturbed children's drawings. These included omissions and distortions of body parts, heavy lines, turned down mouth, raised arms and arms turned inwards. Briggs and Lehmann (1989) found baselining to be an indicator of anxiety. Three out of eleven case-study drawings of disturbed children were baselined.

Colour is a more subtle indicator of anxiety or emotional stress. Golomb (1992) believed that there is a link between colour and emotions. Lewis and Greene (1983) offered colour interpretations but stressed that these can only be applied when the child uses the colour for more than 50 percent of the picture consistently. Red indicates hostility and aggression. Blue indicates stability, self-confidence and self-sufficiency. Yellow indicates enthusiasm, emotion or dependency. Green indicates self-reliance and maturity. Purple and black are asso-
associated with unhappiness, depression and emotional distress.

In 1980, Sturner and Rothbaum investigated the effect of stress and preparation of stress on emotional indicators of 68 children aged between 4 to 12 years who were hospitalized for elective surgery. In this study, venipuncture or a blood test is a naturally occurring stressor. All the children were asked to draw two human figures, once shortly after admission and again 90 minutes later. In the interim, they received stress or no stress and were either prepared or not prepared for the venipuncture. The children were assigned to four experimental groups: 9 for the no stress and unprepared group, 19 for the no stress and prepared group, 25 for the stress and prepared group and 15 for the stress and unprepared group. All the children had their pulse taken by a nurse while a female observer rated the children's coping behaviour. An hour later, every child was taken to a playroom for a 20-minute free play period after which the first drawing was requested. This served as a baseline measure. After the free play period, two groups of children were prepared for venipuncture where they were provided information about and supportive care for the venipuncture. The other two groups who did not receive preparation for venipuncture were left unsupervised. After 90 minutes of drawing the first picture, 25 children from the stress and prepared group and 15 from the stress and unprepared group were given the venipuncture. Five to ten minutes later, the second drawing was requested from them. On the other hand, 19 children from the no stress and prepared group and 9 children from the no stress and unprepared group were
given the venipuncture only after they had completed the second drawing. Koppitz's Emotional Indicator Scoring System for Human Figure Drawing was used to score the drawings. Emotional indicators increased only in the group which was stressed and unprepared. The indicators included the presence of teeth and poor integration of the body parts. This finding suggests that stress in children is expressed in their drawings.

Studies on the interpretation of drawings were also carried out by researchers. According to Di Leo (1983), children usually draw the body parts that are most representative of a real person, usually themselves, thus depicting their inner reality. Eyes are one of the most revealing characteristics of the human figure drawing. If children drew eyes without pupils, abnormally small, hidden by glasses or omission of the eyes, totally it indicated their emotional instability. Buck (1948), Hammer (1958) and Di Leo (1970) found that larger-than-average figures suggested aggression or grandiosity while tiny figures indicated inadequacy, inferiority, low self-esteem, anxiety or depression. Hammer found that a large human figure may be a product of feelings of inadequacy and a large drawing helps to compensate for this type of feeling. A study by Hammer (1958) showed how black children living in the southern parts of the United States made large drawings which were crowded up against the edges of the drawing paper. This was interpreted to express their frustrations and restrictions in a society which is prejudiced to colour.
Research by Machover (1949), Di Leo (1970) and Schildkrout, Shenker and Sonnenblick (1972) further stated that depiction of long arms and large hands expressed power and control but the omission of hand and/or arms reflected feelings of powerlessness and ineffectuality. Human figure drawings with the hands placed in pockets or behind the back expressed guilt and anxiety. However, a study by Klepsch and Logie (1982) suggested that omission of the hands indicated insecurity and difficulty in dealing with the environment as they feel inadequate, ineffective and helpless. Koppitz (1968) also noted that tiny fingers reflected the subject's insecurity and timidity.

In conclusion, Koppitz (1968) had provided a list of indicators which discriminate reliably between human figure drawings made by emotionally disturbed children and those made by normal children. Her interpretations of figure drawing provided a degree of empirical support for assessing emotional states of children via their drawing. Other researchers had also found drawings to reveal inner reality of children.

2.3.4 Trauma indicator

Nonverbal tools, such as art projective techniques, have been used successfully to disclose the inner reality of traumatized children. Research by Hjorth and Harway (1981) indicated that the drawings of physically abused children differ from those of nonabused children. Sturmer and Rothbaum (1980) found sexual interests and activities more marked in the drawings of sexual-
ly abused children.

Lisosky (1992) conducted a qualitative study of 12 homeless children between two to six years old in a day care centre. These children were observed in the day care setting on three different weekday mornings. They were also asked to draw pictures and create stories about those pictures. The results indicated that homeless children of preschool age expressed their anger nonverbally through their drawings.

Waterman, Erhardt, Kelly, McCord and Olveri (1988) demonstrated how children depict their trauma through their drawings. Human figure drawings from 81 children allegedly abused in California preschools were compared with those of a matched group of children who were not abused. Results showed that the target children exhibited significantly more helplessness, inadequacy and insecurity in their drawings than did the control children.

Magwaza, Killian, Petersen and Pillay (1993) showed that the effects of chronic violence on preschool children in South Africa were discernible in their drawings. The subjects were all children attending creches whose ages ranged from two to four years. A total of 148 were surveyed. 68 children were from Area A (an area with relatively few incidents and less intense political violence) and 80 children from Area B (an area that experienced many incidents of severe violence). The children in both areas A and B were asked to draw a picture of something that happened to them. The children drew action figures engaged in

81
violence or the aftermath of violence with distressing frequency. Of the 148 drawings obtained from Area A and Area B, 84 percent drew figures associated with violence or the aftermath of violence. Only four of all the drawings included a sun, a feature frequently drawn by children. This shows that children externalize their traumas through art.

Research by Schildkrout, Shenker and Sonnenblick (1972) stated that depictions of the nose and thumbs in figures are often interpreted as having phallic significance while Wohl and Kaufman (1985) said that overemphasis or elongation of the neck may indicate that children have difficulty in maintaining control over bodily drives.

Buck (1977) demonstrated how trauma in children is revealed through the depiction of several areas of the body structure. Long and unshaded hair on the person is a major theme of children who have been sexually abused while the appearance of a heavily shaded belt around the trunk represent a conflict between the expression and the control of sexuality. Some drawings feature teeth quite prominently and these may indicate aggressiveness. Huge circular mouths are often drawn when oral sex is involved. Stemper (1980) described how feelings and expressions can be presented in artwork and that painting the fantasies of the mind could assist in the externalization of the traumatic incident by providing an avenue for healing and growth.

Riordan and Verdel (1991) studied the artwork of Brian, a four-year-old boy, who was known to have been sodomized by a
adolescent male from the neighbourhood. A drawing of Brian's family had several elongated spherical shapes with two circular shapes joining at the bottom. These shapes were heavily marked through with black crayon. When asked to describe these shapes, Brian identified them as 'things that boys have. They hurt'. The graphic presence of male genitals in Brian's artwork was indicative of sexual abuse. The description of specific shapes not only confirmed the abuse but also enabled Brian to verbalize the experience and inner feelings.

In a study by Burgess (1988), the drawings of nine children sexually abused below the age of four years at the day care centre were compared with a comparison group of eight non-abused children. The sexually abused children depicted their inner reality by omitting, shading and sexualization of the body parts.

Human figure drawings of 124 runaway adolescents were studied by Howe, Burgess and McCormack (1987). They established that graphic indicators such as omission of lower half of body, hidden hands and heavy hair were more prevalent in the drawings of sexually abused than in the drawings of non-sexually abused adolescents. This finding indicated that traumatized children express their emotional states in drawings.

Child victims of incest also reveal their emotional states through art. Yates (1978) stated that when young children are exposed over time to intensely erotic experiences, they
exhibit marked and persistent sexual interests and activities. Young children are incapable of imagining changes that occur to the male organ or adult sexual behaviour. As a result, child victims of incest sexualize their drawings more than youngsters not involved in incest.

Yates, Beutler and Crago (1985) compared drawings of 18 victims of incest with drawings of disturbed children ranging in age from 4 to 17 years referred to the University of Arizona Child Psychiatry Clinic. The incest victims studied were all girls who had been in heterosexual incest with a father or stepfather. All children who were evaluated in the clinic routinely were asked to draw a person. The study showed that explicit depiction of the genitals was present in the younger as well as the older incest victims.

2.4 Summary

The studies reviewed above indicate that children's innermost feelings and thoughts can be expressed through drawings. Children's human figure drawings give a general indication of children's emotional state on Koppitz's list of 30 emotional indicators. Children who were referred for clinical treatment produced more emotional indicators than normal children. Children express and emphasize elements that are of special interest and personal importance to them at that time thereby revealing their feelings and thoughts. Thus, the emotional states of children can be demonstrated by the presence of emotional indicators.
in a quantitative way.

Children's pictures also have an immediate appeal. They are simple and charming, full of life and character but on closer inspection, some of these drawings have queer, even disturbing features. This is because art taps into the unconscious and uncovers positive as well as negative thoughts and feelings through symbols. Therefore, drawings convey powerful messages which play an important part in our understanding and detecting children's emotions.