A COMPARISON OF HUMAN FIGURE DRAWINGS BY CHILDREN HIGH AND LOW IN SOCIOMETRIC STATUS

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A COMPARISON OF HUMAN FIGURE DRAWINGS BY CHILDREN

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An Abstract

Presented to

the Graduate Council of

Austin Peay State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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by

Roy Eugene Goodmiller

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ABSTRACT

The purpose of this study was to investigate the utility of Koppitz's method for scoring HFD emotional indicators in differentiating between children placed in high and low sociometric status groups.

A peer rating scale and the HFD were group administered to six combined fourth/fifth-grade classes. Students scoring in the top and bottom 25% on the peer rating scale were selected for membership in the extreme sociometric status groups. The students' HFDs were analyzed for the presence or absence of Koppitz's emotional indicators.

Koppitz's 30 emotional indicators as well as the 12 found by her to distinguish between disturbed and well-adjusted children were shown to occur significantly more often in the HFDs of low than high sociometric status children. Approximately three-fourths of the children in both social status groups were correctly identified when the presence of two or more of the 30 indicators was considered to be the dividing point between the groups. Two of the 30 indicators were found to occur significantly more often in the HFDs of low than high social status children.

These findings provided strong support for the assumption that children's interpersonal attitudes are reflected in their drawings of the human figure. The results also suggested that the HFD and peer rating scale employed in

this study can be used effectively in the identification of children experiencing difficulty adjusting to classroom situations.

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To the Graduate Council:

I am submitting herewith a Thesis written by Roy Eugene Goodmiller entitled "A Comparison of Human Figure Drawings by Children High and Low in Sociometric Status." I recommend that it be accepted in partial fulfillment of the requirement for the degree of Master of Arts, with a major in Psychology.

<u>Elizabeth H. Hagen</u>
Major Professor

We have read this thesis and recommend its acceptance:

<u>Garland E. Blair</u>
Minor Professor
or
Second Committee Member

<u>Linda B. Rudolph</u>
Third Committee Member

Accepted for the
Graduate Council:

<u>William H. Ellis</u>
Dean of the Graduate School

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training would not have been possible. I would like to
dedicate this thesis to my father, Roy O. Goodmiller, who
instilled in me a desire for knowledge and truth as a child
which I did not fully come to realize until well into my
college career.

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CHAPTER 1

INTRODUCTION TO THE PROBLEM

The Human Figure Drawing Test (HFD) has been widely used with children as both a developmental test of intellectual maturity and a projective test of personality or socio-emotional characteristics. Machover's book, Personality Projection in the Drawing of the Human Figure (1949), set the stage for qualitative assessment of HFDs when used as a projective measure. An enormous number of research studies investigating Machover's hypotheses have accumulated in the literature since the publication of her book. Many of these studies have utilized adults as subjects and/or extended techniques and interpretations used with adults down to children. Although the results of these investigations have been largely inconclusive and often contradictory (Hammer, 1968; Roback, 1968; Swenson, 1957, 1968), the HFD continues to be one of the more frequently employed assessment instruments in clinical settings (Dalby & Vale, 1977).

Koppitz in her book, Psychological Evaluation of Children's Human Figure Drawings (1968), proposed a system for evaluating the HFDs of children aged 5 to 12 years as a projective test of interpersonal attitudes and concerns. She evaluated the projective aspects of children's drawings for the presence or absence of 30 drawing characteristics which she classified as emotional indicators. She also

provided a guide for the projective or clinical interpretation of each singular emotional indicator. Relatively few studies investigating the efficacy of the Koppitz scoring of HFD emotional indicators have been reported in the literature.

Koppitz's basic philosophy of projective HFD analysis represented a departure from the predominantly accepted modes of HFD interpretation. She did not view the HFDs produced by children as a reflection of basic and lasting personality traits or as a representation of their actual physical appearance. Rather, she considered them to mirror current levels of mental growth and attitudes most important at the given moment and changeable in time due to maturation and experience. Koppitz further suggested that the projective qualities of children's HFDs mostly portrayed the individual child's attitudes toward himself/herself and toward significant others in his/her life.

The present study attempts to explore Koppitz's assumption that children's interpersonal attitudes are expressed in their drawings of the human figure. A review of the literature indicated that few studies have examined this assumption directly. The purpose of this study is to investigate the relationship between HFDs and interpersonal attitudes through the use of Koppitz's scoring of HFD emotional indicators and a classroom sociometric rating scale.

Sociometric techniques attempt to measure each individual's social worth or personal value as viewed by his/her group associates. Much of the sociometric research has dealt with children in various educational settings. Most of these studies have used derivatives of the peer nomination technique which was originated by Moreno (1934). In the peer nomination technique, children are asked to choose a certain number of their classmates according to specified criteria such as best friends, playmates, or seat partners. A peer rating scale named the How I Feel Toward Others scale (Bonney, 1954) was chosen as the criterion measure of social adjustment in the present study because it asks each child in a classroom to rate every other child on the basis of friendship feelings. This scale utilizes a weighted scoring system allowing for both positive and negative valuations. Each child's score is the algebraic sum of the positive and negative feelings expressed towards him/her by all the other members of the group. Use of the How I Feel Toward Others scale also permits the comparison of scores from classrooms of different sizes.

Gronlund (1959) notes that when complete groups are used, there tends to be a low positive correlation between sociometric status scores and various measures of personal adjustment. However, when the more sensitive method of comparing extreme sociometric status groups is used, pupils with low sociometric status have consistently lower adjustment scores than pupils with high sociometric status. It

would be of value and interest, therefore, to examine the relationship of children's HFD drawing characteristics with high and low ratings on a sociometric scale. This comparative study should provide information concerning the validity of Koppitz's scoring of HFD emotional signs as an indicator of classroom social adjustment. Additionally, it should yield data concerning the relationship between children's sociometric ratings and indicators of emotional adjustment in their HFDs. Information concerning the relationship between how others see a child and the child sees himself/herself should also be obtained.

Review of the Literature

Koppitz (1968) states in her book that the main reason she devised a system for analyzing children's HFDs for emotional indicators was to provide an intergrative, systematic, and more objective approach to HFD interpretation. In a series of studies, she explored the validity of 30 emotional indicators on the HFDs of children aged 5 to 12 years. In her original validity study, Koppitz (1966a) examined the clinical validity of 32 emotional indicators for 76 pairs of public school children matched for age and sex. One group consisted of children selected by their teachers as outstanding pupils with good social and emotional adjustment. The other group was made up of children receiving therapy in a child guidance clinic. No attempt was made to differentiate the second group of children according to

clinical diagnoses. The HFDs were administered to each child individually. Chi-squares were computed to assess the relationship between the selected drawing characteristics and the two groups of children. Koppitz found that 30 of the original 32 indicators occurred more frequently in the drawings of children from the child guidance clinic than in the children selected by their teachers for outstanding adjustment. Of the 30 emotional indicators, 12 were found to be significantly different between the two groups. Koppitz utilized the .10 level of significance in her analysis of the individual emotional indicators. She found that 76% of the children in the well-adjusted group exhibited no indicators at all in their HFDs; only 9% of the clinical patients drew figures without emotional indicators. On the other hand, 72% of the children from the child guidance clinic showed two or more emotional indicators on their HFDs as compared to only 5% in the well-adjusted group. The differences between the two groups on zero and two or more emotional indicators were significant beyond the .001 level of significance. Thus, Koppitz concluded that the diagnostic significance of the 30 emotional indicators was greatly enhanced when the total number of such signs on a given HFD were considered rather than each item separately. She suggested that two or more emotional indicators on an HFD were highly suggestive of emotional problems and unsatisfactory relationships.

Koppitz (1966b) examined the relationship between emotional indicators on HFDs and behavioral symptoms of shyness and aggressiveness in children aged 5 to 12 years. She matched 31 pupils who were considered to be shy and withdrawn with 31 children who were considered to be overtly aggressive out of a pool of 114 psychiatric patients. The 31 pairs of subjects were matched for age, sex, and IQ scores. Once again, the HFDs were administered individually and chi-squares were computed to assess the relationship between the 30 emotional indicators and the two behavior symptoms. This study demonstrated that children referred for guidance services because of excessive shyness were significantly more prone to produce figure drawings scored for the indicators of tiny figure, hands cut off, no nose, and no mouth than were children referred for aggressive behavior. Conversely, the aggressive group was significantly more likely to draw human figures with asymmetrical limbs, teeth, long arms, big hands, and genitals. The .10 level of significance was used in this study as well. The incidence of emotional indicators was higher for the overtly aggressive than for the shy subjects. No one-to-one relationship between any of the emotional indicators and shy or aggressive children was found; that is, none of the emotional indicators appeared in all the drawings of either group of subjects.

As a part of the above study, Koppitz (1966b) also compared the HFDs of children with psychosomatic complaints

reference to the present study, it should also be noted that in the above investigation Koppitz found no significant difference between the number of emotional indicators revealed on the HFDs of high- and low-achieving students in the third and fourth grades.

In her book, Koppitz (1968) discusses one other study undertaken to investigate the HFDs of special class pupils. This investigation matched 78 special class and high achieving pupils 6 to 10 years of age attending public school programs. At each age level tested, about two-thirds of the special class pupils exhibited two or more emotional indicators on their HFDs while less than one-sixth of the high-achieving pupils revealed more than one indicator in their drawings. The difference between the two groups was significant at the .01 level. Eleven of the emotional indicators were found to distinguish between the two groups. These eleven were completely subsumed either by the 12 indicators mentioned in the original validation study (Koppitz, 1966a) or the seven indicators listed as differentiating between high and low achievers in kindergarten through the second grade (Koppitz, 1966c). Koppitz (1968) noted that the emotional indicators present on the HFDs of the 78 special class pupils resembled rather closely the indicators on the drawings of the psychiatric patients discussed in her original study.

As previously mentioned, a relatively small number of studies have investigated the efficacy of the Koppitz scoring

method. Fuller, Press, and Hawkins (1970) replicated the original validation study by Koppitz using 80 normal public school children and 72 emotionally disturbed children matched for age and sex. Each HFD was administered individually and scored by three judges as to the presence or absence of the 30 emotional indicators. The inter-rater reliability for the normal group was .84 and for the disturbed group .71. Although Koppitz reported no statistical analysis of the HFDs in her study, she did indicate a 95% agreement on all items scored by two judges. This was considerably higher than was reported in the Fuller et al. (1970) study. Chi-squares were computed comparing the number of subjects in the disturbed and normal groups on frequency of emotional indicators in their HFDs. In agreement with Koppitz's results, it was found that some emotional indicators do occur more often in the HFDs of children with emotional problems than in those of normal children. However, of the nine indicators found to discriminate significantly between the two groups ($p < .05$), only four items were the same ones found by Koppitz: poor integration, gross asymmetry of limbs, hands cut off, and no neck. These authors also examined the number of correct group classifications made when the presence of two or more of the 12 emotional indicators identified by Koppitz as distinguishing between emotionally disturbed and well-adjusted children was selected as the dividing point between groups in their study. They found the presence of two or more indicators

in an HFD to be highly suggestive of emotional problems and one or fewer indicators identified most of the normal children in the school population. However, over half of the disturbed children also showed one or fewer indicators in their HFDs. Fuller et al. concluded that use of such a classification approach must be made cautiously.

Some differences were apparent in the samples of children selected for the Fuller et al. and Koppitz studies. Koppitz's sample included children who were considered by their teachers to be outstanding students and children who were receiving therapy in a child guidance clinic. In the Fuller et al. investigation, nearly half of the subjects in the emotionally disturbed group had been referred to the school psychologist rather than to a child guidance clinic. They described their normal group of subjects as being good students who had never been referred for help before. It seems reasonable to suggest, therefore, that the differences noted between the two studies may reflect the relative degree of similarity between the control and experimental groups. It appears that Koppitz employed somewhat more extreme groups of children in her study.

Lingren (1971) attempted to replicate Koppitz's (1966b) study of emotional indicators in HFDs by shy and aggressive children. Subjects were 97 pairs of children with a history of either overt aggressiveness or shyness, matched for age, sex, and IQ. The drawing task was administered individually and a chi-square analysis of the data computed. In this

carefully designed cross-validation study, none of the 30 emotional indicators designated by Koppitz differentiated between the two groups at the .10 level of significance. Lingren suggested that the most likely explanation for the differences between the two studies lay with the HFD task. When scored across 30 dimensions, the HFD was unable to reliably discriminate between two groups such as these. It is also noteworthy, however, that Koppitz used 31 matched pairs in her investigation while this study used 97 pairs across the same age ranges. The probability for error was thereby reduced by three-fold over the original study. Using a random sample of 30 drawings, two psychologists attained an inter-scorer agreement level of 91% with the Koppitz indicators in the Lingren study.

Handler and McIntosh (1971) obtained somewhat more positive findings, using a scoring system primarily derived from the Koppitz method, in distinguishing the HFDs of 17 control, 14 aggressive, and 18 withdrawn children. They were able to correctly classify 67% of the children by the aggressive indicators in their drawings. However, indicators of shyness led to a correct classification rate of only 45%. These authors also found that projective analysis of the HFD or Bender Visual Motor Gestalt test yielded a higher rate of correct group classifications than either behavior observations or self-ratings. The percentage of agreement between two raters ranged from .80 to 1.00 with a median of .93 for the HFD and Bender protocols.

Dieffenbach (1978) empirically tested the reliability and validity of the Koppitz scoring system in distinguishing between behaviorally disturbed and nonbehaviorally disturbed boys ranging in age from 5 to 12 years. Koppitz's scoring system was able to correctly identify 51% of the behaviorally disturbed children, whereas a special education teacher correctly identified 63% of these children. Although there was no significant difference between the Koppitz method and teacher's correct classifications, the teacher identified the students significantly better than chance while the Koppitz method did not. Chi-squares were computed to determine if any of the individual indicators were valid. Only one of the indicators, no eyes, discriminated between the groups in the hypothesized direction.

Dieffenbach (1978) also examined the test-retest, inter-rater, and intra-rater reliabilities for the behaviorally disturbed group of children. He did not report these reliabilities for the group of nonbehaviorally disturbed children. The test-retest reliability for the total number of indicators was .21, the inter-rater reliability was .81, and the intra-rater reliability was .88. The inter-rater and intra-rater reliabilities obtained by Dieffenbach are consistent with those reported by other investigators of the Koppitz method (Fuller et al., 1970; Handler & McIntosh, 1971; Lingren, 1971). However, the low test-retest reliability coefficient obtained requires further comment. The absence of comparable data for the nonbehaviorally disturbed group of children greatly limits

the interpretive significance of this finding. Actually, the only inference that can be made is that for a sample of 50 behaviorally disturbed children the test-retest reliability for the total Koppitz score was nonsignificant. Even so, this finding is somewhat surprising in regard to Swenson's (1968) summation of HFD reliability studies. He concluded that reliability studies based on global ratings of HFDs achieved levels of reliability generally considered to be satisfactory for most psychometric purposes.

Bachara, Zaba, and Raskin (1976) examined the utility of the Koppitz scoring of HFDs in differentiating normal from visually handicapped learning disabled children. Two groups of 35 children matched for age and functioning at least in the low average range of intelligence were used in this study. An inter-rater reliability of .87 between two judges was reported. A significant difference between the means of the two groups at the .05 level was found. Computation of chi-squares comparing the two groups along each emotional indicator revealed that only the omission of feet and omission of hands occurred significantly more often in the experimental than control group. A third indicator, excessive attention to the eyes, which is not included in the Koppitz indicators was also found significantly more often in the experimental group. It was suggested by Bachara et al. (1976), that HFDs might be useful in screening for emotional functioning among children with specific visual and learning problems.

Hall and Ladriere (1970) examined the comparative efficiency of six different scoring systems applied to children's HFDs. Seventy-five boys matched for age and IQ were divided into three groups of 25 for this study. One group was made up of boys diagnosed as emotionally disturbed without overt evidence of brain damage. The second group consisted of boys diagnosed as perceptually handicapped with no apparent evidence of serious emotional disturbance. The third group was composed of boys in regular fourth-grade classrooms with no record of referral for any emotional or perceptual problems. The HFDs were administered individually and then scored according to each of the six scoring systems. Koppitz's 30 emotional indicators were found to discriminate between the control and problem children groups at the .01 level of significance. There were, however, no significant differences between the HFDs of the emotionally disturbed and perceptually handicapped children on any of the scoring systems. Analysis of individual indicators across the scoring systems employed revealed that several were success-ful in differentiating between the control and experimental groups. The authors suggested that there appears to exist a basic core of critical items possessing considerable efficiency in screening normal fourth-grade boys from their peers with emotional or neurological problems on the basis of their drawings. Koppitz's 30 indicators contained a high proportion of these items.

Pihl and Nimrod (1976) explored the relationship of Koppitz's 30 emotional indicators with the Children's

Personality Questionnaire (CPQ), teacher-rated academic skills, Goodenough-Harris IQs, and clinical psychologists' ratings along personality dimensions of reserved-outgoing, self-assured-apprehensive, relaxed-tense, and happy-depressed. Low, though significant, correlations ($p < .05$) were obtained with the derived CPQ Anxiety score and one of the two psychologists' ratings along the personality dimensions of self-assured-anxious and happy-depressed. The experimenters felt that in view of the number of possible correlations, the findings in this study seriously questioned the significance of the Koppitz scoring system.

Eno, Elliot, and Woehlke (1981) in a brief review of the literature associated with Koppitz's and other's HFD scoring systems remarked that these methods have generally shown little or no correlation with self-report question-naire data.

In summary, it seems that there is some support in the literature for the use of Koppitz's 30 emotional indicators in distinguishing between groups of normal and maladjusted children. However, the data are highly contradictory regarding the use of individual indicators to differentiate between normal and diagnostic groups of children. This would be consistent with the conclusions drawn by Swenson (1968) in his review of HFD literature. Namely, that global ratings are the most reliable and more valid aspects of HFDs, while the use of individual indicators are the least reliable and least valid. Several studies have demonstrated inter-rater reliabilities in the .80s and .90s with the Koppitz

scoring system (Barbara et al., 1976; Dieffenbach, 1978;
Handler & McIntosh, 1971; Lingren, 1971). At present, this
author's review of the literature indicates that the Koppitz
system has not been adequately assessed by the test-retest
reliability method.

Sociometric methods have been described as having "face
validity" because unlike self-report personality measures,
they are direct measures of the characteristics being
investigated (Bonney & Hampleman, 1962; Northway, 1967).
However, as pointed out by Bonney and Hampleman (1962), in
order to establish the functional value of sociometric data,
it is necessary to show that these data are related to, or
predictive of, other forms of evidence. Validity studies
have generally shown that sociometric results are signif-
icantly related to the actual observed behavior of children
(Bonney & Powell, 1953; Byrd, 1951), to teachers' judgements
of pupils' social acceptance (Roff, Sells, & Golden, 1972),
and to the reputations children hold among their peers (Kuhlen
& Lee, 1943). They have also been shown to successfully and
significantly discriminate early delinquents from nondelin-
quents and early school dropouts from nondropouts (Roff et
al., 1972).

Numerous investigators have explored the relationship
between sociometric status and various measures of person-
ality adjustment, including self-report personality
questionnaires, problem checklists, and projective techniques
(Baron, 1951; Bonney, 1943; Forlano & Wrightstone, 1951;
Grossman & Wrighter, 1948; Phillips & Devault, 1955; Northway

& Wigdor, 1947; Nowell, 1953; Tindall, 1955). Gronlund (1959) and Bonney and Hampleman (1962) in reviewing many of these studies concluded that self-report and projective measures of personality adjustment have yielded similar results. That is, when total populations are considered, the overall relationship between sociometric results and scores from these personality measures are occasionally moderate, but usually of low magnitude. However, when those high in sociometric status are contrasted with those who are low, the low status pupils are characterized by more severe patterns of maladjustment. The converse has been shown to be true as well.

Although it is not the purpose of this presentation to provide an extensive review of the literature concerning the reliability and validity of sociometric measures, a few brief statements regarding the reliability of these techniques does seem to be warranted. Studies concerning the relia- bility of sociometric results have repeatedly demonstrated a significant degree of stability over time for ages at and above the elementary school level (Roff et al., 1972) and across different group memberships (Gronlund & Whitney, 1956), sociometric criteria (Oden & Asher, 1977), and sociometric methods (Thompson & Powell, 1951). It should be emphasized, however, that the degree of social acceptance an individual obtains in a group remains fairly constant, even though the source of the choices may vary (Northway, 1967).

Gronlund (1959) summarizes several studies which have compared sociometric status scores based on simple choice

methods or peer nominations for specific criteria with those based on more complex procedures such as peer rating scales and peer ranking measures. He concluded that they were consistent in showing a relatively high degree of relationship between peer nominations and other sociometric measures including peer rating scales. He suggested as a result that there is a general social acceptance factor present in sociometric responses irrespective of the method employed in making that response. The How I Feel Toward Others scale used in this investigation is a peer rating scale which provides information concerning a child's social acceptance by having every other classmate rate him/her on the basis of friendship feelings.

There have been a few studies which explored the relationship between children's HFDs and sociometric status positions or attainment of social skills as measured by self-report questionnaires. Tolor and Tolor (1955) examined the accuracy with which a group of experienced clinical psychologists could differentiate the HFDs of children who, on the basis of sociometric analysis, had been most selected or least selected in their groups. A total of 136 white children in three fifth-grade classes and one fourth-grade class comprised the sample in this study. Product-moment coefficients for the sociometric standings of the four classes over a one week test-retest interval ranged from .71 to .76. The drawings were group administered in the classrooms within two days of the original sociometric analysis. Five clinical psychologists were asked to independently choose the five

sets of drawings which were made by the most popular and least popular children. When these judgements were combined for each class, the psychologists were able to distinguish to a statistically significant degree between the two groups of children in three of the four classes. They were unsuccessful in the one fourth-grade classroom included in the study. It was also found that four of the five psychologists were able to significantly discriminate between the most and least popular students when their ratings of the drawings were combined for the four classrooms. An agreement rate of 29% was reported for the psychologists in selecting the drawings of the most popular group. They showed a 35% agreement rate for the least popular group.

In a similarly designed study, Ziv and Shechori (1970) investigated the ability of psychologists as opposed to nonpsychologists in differentiating between the HFDs of popular and rejected children. The subjects, 126 fourth and fifth graders, were administered a brief sociometric questionnaire and asked to draw a person. On the basis of the sociometric questionnaire, 21 popular and 21 rejected students were selected. Two groups of judges, one comprising ten psychologists and one comprising ten randomly selected nonpsychologists, were asked to individually examine the 42 drawings completed by the popular and rejected children, separate them accordingly, and to list the criteria for their division. Ziv and Shechori reported that no significant differences were found between psychologists and nonpsychologists in their ratings of social adjustment.

However, they did not report the extent to which the two groups of judges were correct in their selections. When examining the qualitative differences between the two groups of judges, terminology was suggested to be the only differences between them. The basic dividing principle according to the experimenters seemed to be "common sense" for both groups. The finding that untrained persons can do as well as trained persons in making global interpretations of HFDs has been substantiated in the literature (Albee & Hamlin, 1949; Arkell, 1976); however, most of these studies have investigated such global interpretations in terms of distinguishing the presence or absence of gross maladjustment.

Orgel (1959) assessed the relationship of the House-Tree-Person drawing technique to a sociometric survey of the popularity of 32 children in a second-grade classroom. The subjects completed a three choice sociometric test and were asked to draw the best house, tree, and person that they could. A checklist of 37 drawing characteristics assumed to reflect children's social adjustment was devised from Buck's qualitative evaluation procedures. An impartial judge evaluated the drawings according to this checklist. Four scores were derived from the checklist, one each for the house, tree, person, and a sum total score including all three drawings. These scores were placed in rank order and the correlations between social status and checklist scores computed. The house and person drawings were found to correlate with social status at the .05 level of significance. It was suggested that these two drawings reflected

associations closer to the emotional-conscious level than the tree which yielded a nonsignificant negative correlation.

Richey and Spotts (1959) investigated the relationship of performance in drawing the face to the criterion of sociometric status or popularity. They administered a two-criteria peer nomination test, the California Test of Mental Maturity (CTMM), and the HFD to 103 fifth-grade students. The HFD was scored according to the original Goodenough method of drawing analysis. Three scores, each derived from the Goodenough scoring criteria, were calculated for the subjects: a face score, based on the Goodenough items relating to the face and neck; a body score, based on the remaining items of the scale; and a total Goodenough score. The sociometric popularity scores were converted to standard scores to permit pooling them in the analysis of the results. Product-moment correlation coefficients were calculated among all the variables studied. The relationship between the face score and popularity was significant beyond the .01 level, whereas the relationship between the body score and popularity was nonsignificant. Popularity and the CTMM were discovered to be correlated to about the same degree as popularity and the Goodenough face score. Consequently, a partial r was calculated in which IQ was held constant to better examine the relationship between popularity and the face score. The resulting coefficient of .22, significant beyond the .05 level, indicated that a relationship between the face score and popularity still remained. Richey and Spotts suggested that the empirical relationship obtained

was consistent with the hypothesis that the face score reflects the ability to form relationships; however, the magnitude of the correlation between the face score and popularity was not high enough to warrant its use for anything more than gross kinds of screening.

Stone and Ansbacher (1965) sought to replicate the findings from the Richey and Spotts (1959) study as well as to extend and clarify them. Stone and Ansbacher hypothesized that drawing the communication organs of a man was a better index of social adjustment than scores based on the drawing of a head or face, following the Goodenough-Harris drawing analysis method. The subjects, 59 fifth-graders, were administered the HFD, Primary Mental Abilities Test (PMA), and the "Social Skills" and "Freedom from Antisocial Tendencies" tests from the California Test of Personality (CTP). Five scores were derived from the children's HFDs: head-communication organs, head-noncommunication organs, head total, body total, and complete total. Again, each of these scores represented a differential breakdown of the Goodenough-Harris scoring system. Comparison between the two studies revealed that the correlations of the original Goodenough and Goodenough-Harris scores with the social adjustment measures were generally higher in the later than in the earlier study. This led Stone and Ansbacher to suggest that their measure of social adjustment had more in common with the social characteristics assessed by the Goodenough-Harris than did the sociometrically-determined popularity used in the earlier

study. The main finding in the Stone and Ansbacher study was a correlation of .73 between head-communication organ scores and the measures of social adjustment. The other correlations obtained with the social measures were .47 for all the head items, .26 for the head-noncommunication features alone, .02 for the body alone, and .29 for the total Goodenough-Harris score. Intelligence as measured by the PMA was found to correlate only .07 with the communication organ scores while noncommunication organ scores correlated .36 with intelligence.

Strayer, Harmon, and Strayer (1975) investigated whether children's observed dominance behaviors were apparent in their drawings of themselves and a friend. The assessment of dominance behaviors was based on daily observations of agonistic or conflict interactions in a group of 37 children, age 9 to 11 years, during recess period at school. The "winners" and "losers" of each conflict situation were recorded. Following five weeks of such observations, the children were asked to draw a picture of themselves and a friend. Nineteen of the original 37 subjects were excluded from the study at this point because they had drawn class-mates outside of the observed social group. The drawings produced by the remaining eighteen subjects were scored according to several graphic characteristics and rated by psychologists along social dimensions such as friendliness, hostility, and social dominance. Strayer et al. found that both the direction and extent of dominance difference between

the two drawn figures correlated significantly with observed differences in dominance status. The graphic dimensions most related to observed and judged dominance were: relative percent of page occupied, relative height of each figure, and differences in detail between the figures. Judged and observed differences in dominance status were also found to be independent of the other social dimensions rated. Strayer et al. noted that the use of drawings as a tool for investigating the expression of independently observed social variables seemed to be a valuable and interesting means of connecting indirect and direct methods of observation.

Lott and Lott (1970) investigated the relationship between interpersonal attraction and children's drawings of classmates. The subjects, 23 pupils in a first-grade class-room, were instructed to draw one same-sex classmate in each of three interpersonal categories: liked, neutral, and disliked. Each set of drawings was evaluated for head size relative to total body size, degree of detail, and global judgements of attraction as possible indexes of interpersonal attitudes toward the depicted classmates. Lott and Lott found that the drawings of liked peers were reliably more detailed and significantly larger in head size relative to total body size than the drawings of neutral and disliked peers. Differences between the drawings of neutral and disliked peers along these two variables were not signifi-cant. Lastly, they determined that psychologist and nonpsychologist judges were able to differentially select

drawings of liked and disliked peers above the level of chance accuracy. Lott and Lott suggested that this drawing task appeared to be a valid indicator of interpersonal attraction.

Collectively, the above described studies would seem to indicate that certain aspects of children's interpersonal attitudes and concerns are reflected in their drawings of the human figure. The investigations summarized here generally fell into one of three categories: those that examined the ability of psychologists and nonpsychologists to accurately rate drawings along various social dimensions; those that analyzed the relationship between objectively scored HFD characteristics and social status or adjustment; and those that explored children's drawings of peers as possible indicators of interpersonal attitudes. The results reported in these studies were varied; however, most demonstrated positive and significant outcomes. Thus, there appears to be some support in the literature regarding Koppitz's (1968) assertion that children's interpersonal attitudes and concerns are reflected in their drawings of the human figure.

Although the high correlation found by Stone and Ansbacher (1965) between Goodenough-Harris items depicting communication organs and measures of social adjustment from the California Test of Personality (CTP) is surprising, the two studies most closely resembling the present investigation obtained relatively low correlations (Orgel, 1959; Richey &

Spotts, 1959). These two studies compared sociometric status with objective scoring of HFD characteristics. The low correlations reported are consistent with the generalizations made by Gronlund (1959) and Bonney and Hampleman (1962) regarding the relationship between projective techniques and sociometric measures.

However, the studies by Orgel (1959) and Richey and Spotts (1959) differ in several respects from the present investigation. First, the earlier studies employed peer nominations as their measure of social acceptance, while the present study will use a peer rating scale. Second, the earlier studies did not examine differences between high and low sociometric status groups. Comparison of extreme sociometric groups will be a primary focus of the current investigation. Third, neither of the previous studies employed a scoring system specifically devised to assess emotional indicators in children's HFDs as will this investigation. Fourth and last, the earlier studies did not investigate the relationship between individual drawing characteristics and sociometric status as will this study.

Need for the Study

Review of the literature revealed a relatively small number of published studies which have investigated the relationship between children's HFDs and more direct indices of interpersonal functioning. In this author's view, the results reported in most of these studies have been promising and, therefore, suggestive of a need for additional

exploration. It is hoped that the design differences noted in this investigation will yield new information concerning the relationship between children's HFDs and social attitudes. As a result, the data base should be further broadened. A second purpose of this study will be to evaluate the utility of Koppitz's scoring of HFD emotional indicators in differentiating between children in extreme sociometric status positions. Lastly, the proposed investigation should provide information pertaining to the interrelatedness of social and emotional adjustment.

Statement of the Problem

This study was designed to determine if children in extreme sociometric status groups differ in any systematic and consistent way in their drawings of human figures. Koppitz's system of scoring emotional indicators in HFDs was selected to evaluate the drawings, in part, because it allows for the objective scoring of 30 drawing characteristics. Koppitz's (1968) assumptions regarding the expression of children's interpersonal attitudes in HFDs and the prior research history associated with her scoring system were also factors in its selection for the present study. The HFDs produced by the high and low sociometric status children will be analyzed for the presence of each individual emotional indicator and for the total number of indicators scored. The appropriate statistical comparisons will then be made.

Hypotheses

1. The low sociometric status children will display a significantly greater number of emotional indicators in their HFDs than will the high sociometric status children.

2. The low sociometric status children will display two or more emotional indicators in their HFDs significantly more often than the high sociometric status children.

3. A certain number of individual emotional indicators will occur significantly more often in the HFDs of low than high sociometric status children.

4. The 12 emotional indicators found by Koppitz (1966a) to differentiate between well-adjusted and emotionally disturbed children will appear significantly more often in the HFDs of low sociometric status than high sociometric status children.

Limitations of the Study

The subjects selected for this study were fourth- and fifth-grade students enrolled in a military dependent school system. The fourth and fifth grades in this school system are combined into the same classrooms. The mainstreaming of special education children into regular classrooms is also widely practiced in this system. Although no attempt was made to identify children in special education for this investigation, it was known to the author that special education children were included in the sample of subjects obtained. Therefore, the possibility of stereotypic attitudes toward the special education children by regular classroom

pupils affecting the sociometric data acquired must be considered. Prior sociometric research with special education populations has shown that such students are less well-accepted by and receive a disproportionate number of social rejections from pupils without school-related difficulties (Bryan, 1974; Miller, 1956). Research studies examining the relationship between sociometric status and family mobility have yielded generally contradictory findings (Gronlund, 1959); however, it may be that the mobility required of military families is also an important consideration in the present investigation. It must be assumed, in conclusion, that the structure and philosophy of this school system as well as the military community in which it operates greatly limits the generalizability of the results obtained in this study to children in more typical public school systems.

The group administration of the HFD test was a second limitation of this study. Koppitz (1968) noted that group administration of the HFD test is acceptable and often more feasible than individual administration. However, children usually produce more detailed and revealing HFDs in the individual setting. Group administration of the HFD test seemed to be especially appropriate in this investigation, since the relationship between children's interpersonal status in the classroom and their HFDs will be evaluated.

CHAPTER II

METHOD

Subjects

This study was conducted with students from six combined fourth/fifth-grade classes in the Fort Campbell Dependent School System, Fort Campbell, Kentucky. Barkley Elementary School and Lincoln Elementary School each provided three fourth/fifth-grade classes for this investigation. The Superintendent, Director of Instruction, and principals from the two elementary schools gave their permission for the study to be conducted at the school facilities during regular school hours.

The sociometric rating scale and HFD test were administered during the second and third weeks of May, 1982. The investigation was conducted near the end of the school year so that the children would have been given ample opportunity to become acquainted with each other. The subjects for this study were 161 fourth and fifth graders combined into the six classrooms. Four subjects were excluded from the study because they failed to complete all the test requirements. This left a total of 157 subjects. On the basis of the sociometric evaluation, the subjects in the top and bottom 25% of sociometric status were selected for comparative analysis with their HFDs. This resulted in 39 subjects in both the high and low

sociometric status groups or a total of 78 subjects including 28 boys (16 fourth graders and 12 fifth graders) and 50 girls (28 fourth graders and 24 fifth graders).

Legally informed consent from the parents of children included in this study was not necessary since cumulative records were not reviewed and each child was treated exactly the same. The information desired was about groups of children. No identifying information such as a name or physical description will appear in this study.

As previously mentioned, mainstreamed children were included in the sample of subjects obtained. However, no attempt was made to identify them. All subjects completing the sociometric rating scale and HFD test were included in the original sample of subjects.

Apparatus

Permission form. A letter requesting the permission of the Fort Campbell Dependent School System to conduct this investigation was forwarded to the Superintendent and Director of Instruction. This letter explained the purposes of the study, the assessment procedures, and the reasons legally informed consent from parents was not required. A copy of this letter is included in Appendix A. Information concerning the results of this study was requested by the school system and will be provided to them. The information obtained from the sociometric rating scale was shared with teachers whose classes participated in the study.

Description of the instruments. Bonney (1954)
developed the How I Feel Toward Others sociometric rating
scale for the purpose of measuring an individual's social
acceptance within a group. This scale offers a more
complete analysis of social acceptance than peer nomination
measures because it allows every child to rank every other
child in a classroom on the basis of friendship. The How I
Feel Toward Others scale consists of two degrees of accept-
ance, one neutral category, and two degrees of rejection.
It permits the children in a classroom to rate each other
along five categories of friendship: (1) Best friend,
(2) Other friend, (3) Don't know, (4) Not my friend, and
(5) Do not want as my friend.

As suggested by Bonney, a weighted scoring system was
used to determine each individual's score. Every choice
received as "Best Friend" was given a +2; every choice
received as "Other Friend" was given a +1; every choice
received as "Don't Know" was given a zero; every choice
received as "Not My Friend" was given a -1; and every choice
received as "Do Not Want As My Friend" was given a -2.
Thus, the total score received by a child is the algebraic
sum of positive and negative feelings toward him of every
child present for the test.

The sociometric scores used in this study were based
on the extent to which each child in a classroom was chosen
in terms of the maximum possible choosing. The maximum
score a child could receive was determined by multiplying
the number of children who rated him/her by two or the

score a child would receive if every child had given him a choice of "Best Friend." This score was then divided into the actual score the child received to obtain the percentage of the possible score. Each score was then multiplied by 100 to remove the decimal points. Since some children received negative scores, 100 was also added to each score so that only positive values were employed in the study. This procedure made it possible to compare scores from classrooms of varying sizes.

The reliability of the How I Feel Toward Others scale was established by the constancy of successive administrations of the scale ranging from one day to six months. The Rho correlations between successive group ranks varied from .62 to .94. These reliability coefficients apply only to the constancy of group ranks and not to the consistency of choosing between individuals. The validity of the instrument is based on the assumption that feelings carry their own validity for the particular person. That is, the feelings which one person expresses toward another are not an index to something against which they can be validated. The assumption must also be made that the subjects give an honest, sincere response if the data are to be accepted as valid.

Koppitz's (1968) method of evaluating emotional indicators in the HFDs of children age 5 to 12 years consists of 30 specific drawing characteristics which are scored for their presence in a drawing. This system of examining children's HFDs evolved from Koppitz's own research into the

clinical validity of drawing characteristics in differentiating between various populations of adjusted and maladjusted children. The Koppitz method employs both objective scoring of the 30 drawing characteristics and subjective interpretation of the individual indicators found in a child's HFD. The present investigation is primarily concerned with the objective scoring of drawing character- istics in children's HFDs. Koppitz (1966a) reported that two or more of these 30 emotional indicators on an HFD were highly suggestive of emotional problems and unsatisfactory interpersonal relationships. She also found that 12 of the indicators occurred significantly more often in the HFDs of emotionally disturbed children.

Koppitz's 30 emotional indicators are listed below in the order which they appear in her scoring manual (Koppitz, 1968). They are grouped under three broad defining categories as specified in the scoring manual. The emotional indicators followed by an asterisk were those found by Koppitz to discriminate between well-adjusted and emo- tionally disturbed children.

A. Quality Signs

1. Poor integration of parts of figure *
2. Shading of face
3. Shading of body and/or limbs *
4. Shading of hands and/or neck *
5. Gross asymmetry of limbs *
6. Slanting figure, axis of figure tilted by 15 degrees or more *
7. Tiny Figure, two inches or less *
8. Big figure, nine inches or more in height *
9. Transparencies *

B.   Special Features

10. Tiny head, head less than one-tenth of total figure height
11. Crossed eyes, both eyes turned in or out
12. Teeth
13. Short arms, arms not long enough to reach waistline *
14. Long arms, arms long enough to reach knee line
15. Arms clinging to side of body
16. Big hands, hands as large as face of figure *
17. Hands cut off, arms without hands or fingers *
18. Legs pressed together
19. Genitals
20. Monster or grotesque figure
21. Three or more figures spontaneously drawn
22. Clouds, rain, snow

C.   Omissions

23. No eyes
24. No nose
25. No mouth
26. No body
27. No arms
28. No legs
29. No feet
30. No neck *

As already mentioned in the review of the literature, the total Koppitz score is reliable when scored by two or more judges and fairly valid in differentiating between well-adjusted children and clinic patients. Analysis of the individual emotional indicators has yielded mostly contradictory data.

Procedure

All the students from the combined fourth/fifth-grade classes who were present on the day of testing were administered the HFD and How I Feel Toward Others scale by the author, with the assistance of the teacher. After being introduced to the classes by the teachers, the author greeted the students and made the following statement:

I want to thank each of you for helping me learn more about children your age today. You are a part of a study of over 150 fourth and fifth graders that is being made in Fort Campbell Dependent Elementary Schools in order to try to understand children better. Adults often forget how they felt about things when they were your age, and we feel we might do a better job in working with children if we knew more about you. You will be taking two tests today. On one of them you will be asked to draw a whole person which is not a stick figure or a cartoon figure. On the other one, you will tell how you feel about other students in your class. I want you to do the very best you can on each of these tests so we can know more about boys and girls your age. Your names will not be used in any way, but you will be helping us to understand all boys and girls your age better. Again, I thank you all very much for your help.

Since the children were giving their time and effort, it seemed that they were entitled to know the purpose of their contribution to the investigation.

Following this statement, the students were asked to separate their desks as space permitted, to remove everything from their desks except a #2 lead pencil with an eraser, and to remain silent throughout the assessment procedures. Pencils were supplied to the children who had none at this time. Next, each child was given a blank sheet of white paper size 8½ x 11 inches and instructed to write his/her name at the top of the paper. Then, the directions for administering the HFD as specified by Koppitz (1968, p.6) were presented:

On this piece of paper, I would like you to draw a whole person. It can be any kind of person you want to draw; just make sure that it is a whole person and not a stick figure or a cartoon figure.

In addition to these instructions and due to time restraints, the children were also told that they had approximately ten minutes to complete their drawings. After eight minutes, the children were told that they had about two minutes to finish up. This time limit was chosen because Koppitz (1968) reported that most children will finish their drawings in less than ten minutes.

After presenting the instructions for the HFD, the author permitted individual questions. These were answered within the limits of Koppitz's directions. Lastly, the children were asked to turn their drawings face down when completed and to remain silent until the drawings were collected by the author or teacher. One child did not complete the HFD within the necessary time restrictions.

After the HFDs had been collected, the students were given an alphabetized listing of the names of all the children in their class and a copy of printed instructions for completing the sociometric rating scale. The author read the standard directions aloud while the students followed silently at their seats. After this presentation, individual questions were permitted once again. Then, the author called aloud each name on the alphabetized list in order. The need for absolute silence during the administration of this scale so that no one's feelings would be hurt was emphasized to the children. As each child's name was called, he/she was asked to raise a hand while the other students rated him/her. The author met with teachers of the

participating classes prior to the testing to learn the
correct pronunciations of difficult names. Upon completion
of the rating list, the students were asked to turn their
papers face down until all were collected by the author or
teacher. Three children did not complete the ratings as
described above. The total assessment procedure, including
both the HFD and sociometric rating scale, took approximately
40 minutes to complete for each class.

The results from the sociometric scale employed in this
study were used only to make the classifications of children
into the top and bottom 25% sociometric status groups. The
data analyzed for the comparisons between these two groups
came from Koppitz's scoring of HFD emotional indicators.

RESULTS

All of the HFD protocols were scored independently by the present author and an individual trained by the author in accordance with the scoring guide provided by Koppitz (1968) for the 30 emotional indicators. Inter-rater reliabilities were computed for both groups of children. The reliability coefficient for the high sociometric status group was .97 and for the low status group .96. The high degree of agreement obtained between the two raters was consistent with that reported in most previous studies employing this method.

The t-test for independent means was used to determine if there was a significant difference between the total number of emotional indicators in the two sociometric groups. The mean number of emotional indicators attained by the children in the high sociometric status group was 1.15; the mean number of indicators attained by children in the low sociometric status group was 2.36. There was a significant difference between these two means ($t=4.11$, $p<.01$, $df=76$). The standard deviations for the two groups, 1.18 for the high status group and 1.46 for the low status group, were similar. This suggests that the distribution of emotional indicators within the two groups was roughly equivalent.

Chi-squares with Yate's Correction for Continuity were computed in order to test the second and third hypotheses.

The second hypothesis specified a comparison between the two social status groups with regard to the number of individuals showing two or more emotional indicators in their HFDs. This comparison revealed that children in the low status group showed two or more emotional indicators in their HFDs significantly more often than children in the high status group ($X^2=14.83$, $p<.01$, $df=1$). Children in the high status group were also found to show zero emotional indicators in their HFDs significantly more often than those in the low status group ($X^2=3.85$, $p=.05$, $df=1$). Table 1 lists the frequencies of the 30 emotional indicators for the two social status groups.

Table 1

Frequencies of 30 Emotional Indicators for the

Two Social Status Groups

Number of Indicators	Low Status Group	High Status Group
5	4	1
4	5	1
3	7	3
2	12	5
1	7	17
0	4	12

The third hypothesis examined the ability of the individual emotional indicators to distinguish between the two status groups. Two of the 30 indicators, shading of

the body or limbs (X^2=4.27, $p<.05$, $\underline{df}$=1) and short arms (X^2=9.51, $\underline{p}<.01$, $\underline{df}$=1) were found to occur significantly more often in the HFDs of children in the low sociometric status group.

The same statistical procedures employed in the analysis of the complete Koppitz scoring system were employed in testing the fourth hypothesis. This hypothesis explored the utility of the 12 emotional indicators found by Koppitz (1966a) to differentiate between emotionally disturbed and well-adjusted children in distinguishing between the extreme sociometric status groups. A t-test for independent means revealed, once again, that the low sociometric status group had significantly more of the 12 emotional indicators in their HFDs than the high sociometric status group ($\underline{t}$=2.65, $\underline{p}<.01$, $\underline{df}$=76). The mean and standard deviation of the low status group were 1.33 and 1.22, respectively. The mean and standard deviation of the high status group were .69 and .89, respectively. The low status group also showed two or more of the 12 emotional indicators in their HFDs significantly more often than the high status group (X^2=5.13, $\underline{p}<.05$, $\underline{df}$=1). It would seem that use of the 12 indicators yielded somewhat comparable results to the 30 indicators when differentiating between groups of children high and low in sociometric status. Table 2 lists the frequencies of the 12 emotional indicators for the two sociometric status groups.

Table 2

Frequencies of 12 Emotional Indicators for the

Two Social Status Groups

Number of Indicators	Low Status Group	High Status Group
5	1	0
4	0	1
3	6	0
2	9	5
1	11	13
0	12	20

The two emotional indicators found to significantly distin-
guish between the extreme sociometric status groups were
among the 12 indicators discussed above.

The primary purpose of this investigation did not
include an examination of possible sex and/or grade
differences between the two groups of children. However,
a few comments regarding the composition of the groups
along these characteristics are necessary for a clearer
understanding of the results obtained. As mentioned earlier,
50 or 64% of the subjects selected for this study on the
basis of sociometric rating scale scores were girls. The
subjects were much more evenly distributed by grade level with
reference to the total number of students in the selected
sample. As can be seen from Table 3, fourth graders were

Table 3

Percent of Group Memberships

by Sex and Grade

Subject Characteristics	Low Status Group	High Status Group
Fourth Grade Boys	31%	10%
Fifth Grade Boys	18%	13%
Fourth Grade Girls	46%	21%
Fifth Grade Girls	5%	56%
Fourth Grade Total	77%	31%
Fifth Grade Total	23%	69%
Boys Total	49%	23%
Girls Total	51%	77%

most often rejected (77%) and fifth graders most often accepted (69%) by their peers in the mixed classrooms. Further, the two sexes were almost evenly represented in the low status group, whereas girls (77%) dominated the high status group. Analysis of the sociometric data obtained from the individual classrooms suggested that the exceedingly high proportion of fifth-grade girls (56%) in the high status group may have been due, in part, to mutual high ratings between members of friendship subgroups or cliques.

DISCUSSION

This study empirically investigated the relationships
between extreme sociometric status groups as determined by
a peer rating scale and Koppitz's method of scoring HFD
emotional indicators in a sample of fourth- and fifth-grade
students. Each of the four hypotheses specified in this
study was supported by the data obtained. First, it was
found that children in the low sociometric status group
showed a significantly greater mean number of emotional
indicators in their HFDs than children in the high socio-
metric status group. Review of the literature indicated
that Koppitz's method of scoring emotional indicators had
not previously been investigated in the manner of the present
study. Apparently no other studies have compared extreme
sociometric status groups on the basis of HFD drawing
characteristics. However, studies by Bachara et al. (1976)
and Hall and Ladriere (1970) contrasting diagnostic and
normal groups of children with the Koppitz scoring system
have yielded results similar to those reported in the
present investigation.

Second, it was determined that children in the low
sociometric status group exhibited two or more emotional
indicators in their HFDs significantly more often than
children in the high sociometric status group. Koppitz
(1966a) found that emotionally disturbed children showed

two or more emotional indicators in their HFDs significantly more often than well-adjusted children. Bachara et al. (1976) in their study contrasting visually handicapped and normal groups of children concluded that three or more of Koppitz's emotional indicators in an HFD protocol were suggestive of emotional disturbance. Thus, there is some support in the literature for differentiating between diagnostic and normal or well-adjusted groups of children on the basis of relative number of emotional indicators in their HFDs. The current study provides support for this conclusion as well, although the differentiation was based on extreme sociometric status positions.

Third, 2 of the 30 emotional indicators were found to occur significantly more often in the HFDs of low than high sociometric status groups of children. Koppitz (1968) provided a general guide for deriving projective interpretations from each of her 30 emotional indicators in addition to the presentation of her scoring system. The two indicators found to occur more often in the low status group were short arms and shading of body or limbs. Koppitz suggested that short arms were reflective of difficulty in a child's reaching out in the world and towards others. She described this sign as being associated with withdrawing tendencies and attempts to inhibit one's impulses. Shading of the body or limbs was identified as being suggestive of body anxiety or anxiety associated with activities involving the limbs. The interpretive significance of these two

indicators according to Koppitz would seem to be consistent with what would be expected from a child low in social status or acceptance. However, it should be noted that Koppitz described several other of the emotional indicators as reflecting difficulty in interpersonal relationships which were not found to be significant discriminators in the present study. Likewise, studies by Fuller et al. (1970) and Lingren (1971) which sought to replicate findings by Koppitz (1966a and 1966b, respectively) that certain indicators were able to distinguish between various populations of children have reported primarily negative results. Thus, it is suggested that the two emotional indicators found in this study to distinguish between children high and low in sociometric status must be viewed cautiously.

Fourth, the present study revealed that the 12 indicators found by Koppitz (1966a) to significantly distinguish between emotionally disturbed and well-adjusted children occurred significantly more often in the low than high sociometric status groups. It was also determined that two or more of these 12 indicators were present significantly more often in the HFDs of children low in sociometric status. These findings suggest that use of the 12 emotional indicators might be as effective as the 30 in distinguishing between children who are high or low in sociometric status. Fuller et al. (1970) examined the ability of these 12 indicators to differentiate between emotionally disturbed and normal groups of children using the criterion of two or

more emotional indicators as being suggestive of emotional disturbance. In distinguishing between two groups, these authors discovered that most of the children in the normal group (82%) showed one or fewer of the 12 indicators in their HFDs. However, over half (58%) of the emotionally disturbed children also showed one or fewer indicators. Thus, even though the criterion of 2 or more of the 12 emotional indicators in an HFD effectively identified normal and emotionally disturbed children, over half of the emotionally disturbed children were misclassified by this procedure.

Table 4 specifies the percent of correct classifications for the two social status groups using the criterion of two or more indicators with both the 30 and 12 emotional indicators. It can be seen from examination of Table 4 that the same difficulties described in the Fuller et al. (1970) study are present in this investigation when only the 12 emotional indicators are used.

Table 4

Percent of Correct Classifications for the

Two Social Status Groups

Emotional Indicators	Low Status Group	High Status Group
30	72%	74%
12	41%	85%

Use of the two or more indicators criterion correctly identified most of the children in the high sociometric status group as having one or less of the emotional indicators in their HFDs. However, less than half of the children in the low sociometric status group were correctly identified as having two or more indicators. When the 30 emotional indicators are used, approximately three-fourths of the children in both sociometric status groups are correctly identified. These figures suggest that, overall, the most accurate results are obtained when the 30 emotional indicators are used. A combination of the two approaches would yield the highest degree of correct classifications. The 12 indicators might be used for the identification of the high social status children and the 30 indicators used with the low sociometric status children. This combination would increase the correct classification of children in the high status group by approximately 10%.

The studies reviewed in the literature which have explored the relationships between children's HFDs and various indices of social adjustment are not really comparable in design or purpose to the present investigation. However, the mostly positive and significant results reported in these studies are supportive of the findings in the present study (Lott & Lott, 1970; Richey & Spotts, 1959; Stone & Ansbacher, 1965; Tolor & Tolor, 1955). There appears to be ample evidence that children's interpersonal attitudes and concerns are reflected in their drawings of the human figure.

Although the results obtained in this study supported each of the hypotheses made, they are limited in their applicability because of the special population from which they were taken. The structure and philosophy of the military dependent school system within which the data were collected greatly restricts the generalizability of the results obtained to children in more typical public school systems.

CHAPTER V

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to examine the ability of Koppitz's method for scoring HFD emotional indicators in differentiating between children placed in extreme sociometric status groups on the basis of a peer rating scale. Both measures were group administered to six combined fourth/fifth-grade classes. Children scoring in the top and bottom 25% on the peer rating scale, a total of 78 subjects, were selected for the high and low sociometric status groups, respectively. The subjects' HFDs were analyzed for the presence or absence of Koppitz's 30 emotional indicators.

Statistical analyses revealed that Koppitz's 30 emotional indicators as well as the 12 found by her to distinguish between emotionally disturbed and well-adjusted children were able to significantly differentiate between children in high and low social status groups. The data also indicated that two or more emotional indicators occurred significantly more often in the HFDs of low than high social status children whether using the 12 or complete 30 emotional indicators. Two indicators, short arms and shading of the body or limbs, were present significantly more often in the HFDs of low social status children. Approximately three-fourths of the children in both social

status groups were correctly identified when the 30 emotional indicators were used with the two or more criterion.

The findings in this study suggest that Koppitz's method of scoring HFD emotional indicators can correctly identify a relatively high proportion of children placed in high and low sociometric status groups on the basis of scores from a peer rating scale. Alternatively, it seems reasonable to conclude that most children scoring in the lower 25% on the peer rating scale could be considered to be experiencing some degree of emotional disturbance since so many children were classified correctly. Both methods, therefore, would appear to be effective means of identifying children who are experiencing adjustment difficulties in the classroom.

The degree of correct correspondence between the two methods also suggests that children are fairly accurate at recognizing signs of maladjustment in other children. However, it does not reveal whether children reject other children because they detect signs of maladjustment or children exhibit adjustment problems because they are rejected by their peers. The notion of conformity to group norms or expectations appears to have much in common with the viewpoint that children are rejected because they evidence signs of maladjustment in their behavior. It seems reasonable to assume that children viewed by their peers as failing to conform to group behavioral expectations would tend to be rejected much more frequently than those who were

conforming to the group expectations. Children handicapped in some way would have an exceedingly difficult time attaining group acceptance since they are attempting to meet the group's expectations from a disadvantaged position. This viewpoint appears to be particularly applicable to special education children mainstreamed into regular classrooms.

The second viewpoint was that children experience maladjustment because they are socially rejected by their peers. This view has much in common with the idea of a need for belonging or affiliation. Being a member of a group is one of the most characteristic aspects of the human species. A child not loved or accepted by his parents, peers, or teachers will be much more likely to develop incapacities in relating to others which leads him/her to behave in ways that are considered by the majority group to be maladjusted or abnormal. Additionally, it seems that the need for positive social approval or acceptance is often so strong that the inability to obtain such acceptance is basic to maladjustment. This view also maintains that the development of a healthy self-concept is highly dependent on others valuing one as a person and responding warmly to one's actions. The mobility required of military families would make it very difficult for some children to develop a strong sense of belonging or affiliation.

Of course, it might also be concluded that children can be socially rejected as a result of either or both of these

viewpoints. It appears to the present author that children caught in the cycle of rejection suggested by these differing viewpoints would be most susceptible to serious maladjustment.

The results obtained in this investigation indicated that Koppitz's method of scoring HFD characteristics can successfully identify three-fourths of the children in high and low sociometric status groups. Previous studies by Koppitz (1966a) and Fuller et al. (1970) reflected that the same 30 drawing characteristics were able to differentiate between emotionally disturbed and adjusted groups of children. Other studies reported significant differences between groups of learning handicapped and normal children (Bachara et al., 1976; Hall and Ladriere, 1971). Consequently, there appears to be some question as to what it is that is being measured by this system of HFD analysis. Adding to the confusion, Koppitz (1968) describes the HFD as reflecting primarily a child's interpersonal attitudes and concerns, and yet, she named the drawing characteristics incorporated into her scoring system emotional indicators.

There are several possible answers to the question of what is being measured by this system of HFD analysis, none of which are addressed in the literature in this author's view. Probably the most apparent and reasonable conclusion is that social and emotional adjustment are interrelated and, therefore, largely inseparable on the basis of an individual's HFD. If this be the case, a better name for
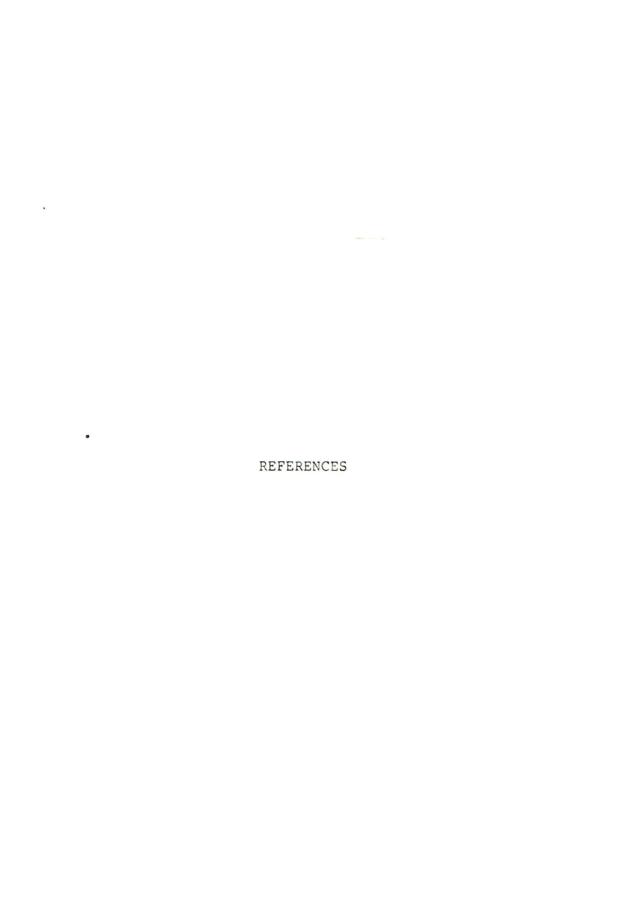
Koppitz's 30 drawing characteristics might be "socio-emotional" indicators. However, the possibility that a general social or emotional factor is present in the selected drawing characteristics would not be inconsistent with the findings reported in this and previous research studies employing Koppitz's emotional indicators. Most of these investigations compared children in special education and normal groups. Consequently, it may be that the HFDs produced by the special education children reflected their inability to establish and maintain interpersonal relationships because of their various handicapping conditions. It is also possible that some of the handicapping conditions were brought about by problems in establishing interpersonal relationships. The resemblance between these factors and the prior discussion of social rejection viewpoints is readily apparent. A third possibility would be that there are actually two clusters of drawing characteristics present in Koppitz's scoring system: one cluster representing social adjustment and the other emotional adjustment. A fairly large scale factor analytic study would be necessary to fully assess these possible conclusions.

Lastly, the results and conclusions discussed in this study point to the continued necessity of research, training, and practical application of knowledge in helping children acquire the essential social and personal skills for independent and satisfying living.

Recommendations for Further Research

Based on the existing literature and the results of this study, the following needs for further study are indicated.

1.   A larger scale replication study in a more typical school system which compares students at several age levels and includes average sociometric status groups of students is needed.

2.   There is a need for studies comparing Koppitz's scoring of HFD emotional indicators and measures of social status with intelligence, achievement levels, or school grades.

3.   There is a need for studies comparing Koppitz's scoring of HFD emotional indicators with inter-sex and intra-sex sociometric choosing.

4.   There is a need for a large scale factor analytic study examining the relationships between Koppitz's scoring of HFD emotional indicators and various indices of social and emotional adjustment in the attempt to more fully determine what it is that is being assessed by the HFD.

5.   There is a need for more comprehensive studies employing Koppitz's scoring of emotional indicators in the comparison of special education and regular classroom groups of children.

6.   There is a need for test-retest reliability studies with the Koppitz scoring of HFD emotional indicators.

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APPENDIX A

PERMISSION REQUEST

I, Roy E. Goodmiller, am requesting permission from the Fort Campbell Dependent School System to include approximately 150 fourth/fifth grade students in my graduate thesis research. This research concerns the relationship between characteristics of children's human figure drawings (HFD) and high or low ratings of classroom social acceptance on a sociometric scale. No identifying information such as an individual child's or teacher's name will be used in this study. Likewise, no educational records will be consulted for information pertaining to these children. The information desired is about groups of children and not about any one child.

Only I will have access to both the students' drawings and sociometric ratings. However, I would be willing to share the information obtained from the sociometric scale with teachers of the individual classrooms utilized in this study. This would not be a breach of ethics since the entire classroom would be involved. I would also be willing to conduct an Inservice Training Program on the uses, kinds, and interpretations of sociometric techniques for teachers and other interested school personnel. I will answer any questions you may have about this study and the outcome would be made available to you. I feel that this research as proposed above would be of benefit to the Fort Campbell School System as well as to myself.

_____
Roy E. Goodmiller

The Fort Campbell Dependent School System is willing for the information obtained from this group of children to be included in this study.

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School Representatives