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## Kinetic Family Drawings by Children with Perceptual-motor Delays

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*Kinetic Family Drawings (KFDs) from 50 kindergarten and first-grade children with perceptual-motor delays are compared with those done by 50 children of the same age without such delays. Each child was asked to make a drawing of his family, including himself, with everyone doing something. All drawings were scored on criteria developed by Burns and Kaufman, and by Koppitz: isolation-rejection, body concerns, and sibling rivalry. The KFDs of children with delayed development showed more of these indicators than did the control group's KFDs. A further analysis of the results suggests that isolation-rejection and body concerns differentiate the children who show delayed development from those who do not. Rivalry is not a significant discriminator. KFDs provide important clinical information for the diagnosis and treatment of the problems of young children.*

The Kinetic Family Drawing (KFD) technique is a projective test developed by Burns and Kaufman (1970, 1972) for use by psychiatrists and clinical psychologists. To date, there is scant literature concerning its use. On the other hand, its forerunners, the Human Figure Drawing (HFD) technique and the House-Tree-Person (H-T-P) test, have attracted considerable attention from clinicians and researchers. For

example, the studies of Goodenough (1926), Machover (1949), Harris (1963), and Hammer (1955) are well known.

In general, there are two approaches to interpreting drawings by children. Some clinicians interpret them as projections of the unconscious aspect of the child's personality structure, an expression of inner needs, feelings, conflicts, and motivations. Others regard them as measures of mental maturity. Some use the drawings both ways. For example, Koppitz (1968) stated that HFDs reflect the child's current level of mental development as well as interpersonal relationships, attitudes, and concerns of a given moment. In answering anticipated criticisms about this projective technique, she supported her clinical interpretations with extensive research. Burns and Kaufman (1970, 1972) expanded the original concept of the HFD by asking the child to draw everyone in his family doing something. It was their contention that *kinetic* drawings give more information about the child and more aid in understanding the troubled child than do drawings showing no action.

The present study incorporates the ideas of Koppitz and her forerunners with those of Burns and Kaufman. Previously, clinical observations suggested that children with learning problems often manifest delayed perceptual

and/or motor development, frequently have difficulties in interpersonal relationships, and may appear to be "emotionally involved." Recently, reports indicate that the HFD technique is sensitive to these factors in learning disabled children (Raskin & Beatty 1973) and those with visual problems (Bachara, Zaba & Raskin 1975). The present study aims to ascertain whether the KFD technique might be useful (1) in identifying emotional factors in children with perceptual-motor delays and (2) in differentiating between children with and without those delays.

### PROCEDURE

The opportunity to study the usefulness of KFDs appeared when 359 kindergarten and first-grade children were screened for perceptual-motor problems. All were given the Martin Screening Test for Motor Disabilities (MST) (Martin 1971) and the Developmental Test of Visual-Motor Integration (VMI) (Beery 1967) to identify those who might benefit from supplementary programming. A cutoff score of 13 on the MST was arbitrarily chosen to include the lower 30% of the kindergarten population in the supplemental program (Martin 1971). For the first grade, where integrative abilities should be emerging (Birch & Belmont 1965, Jones & Robinson 1973), 16% were selected with an arbitrary cutoff score of 15 on the MST.

VMI age-equivalent scores were computed for each child according to age and sex. Discrepancy between chronological age and VMI age score was also computed for each child. Those kindergarten and first-grade children scoring in the lowest 20% according to this discrepancy were also placed in the program. These instruments identified 123 of the 359 children.

From this developmentally delayed group, 50 children were randomly selected to participate in the KFD study. An additional 50 children from the nondelayed group were chosen randomly for comparison. The combined sample included 48 males and 52 females, matched for age and sex. The mean age was 6.2 years. As a unique procedure, the KFDs were

administered in small groups of 7 to 20 rather than individually.\* The instructions recommended by Burns and Kaufman were followed in all other respects.

The children were taken to an unused room in their school building, and each was isolated sufficiently to insure that copying was virtually impossible. Members of the testing team distributed a sheet of paper, 8½ by 11 inches, and a pencil to each child. The following directions were given: "Draw a picture of everyone in your family, including yourself, doing something. Draw whole people, not cartoons or stick people. Remember, make everyone *doing* something—some kind of action." Each member of the testing team then moved about the room discouraging exchanges between children by sitting facing a child and speaking in soft, encouraging tones. In this way, one child's view of another was obstructed as much as possible.

If a child was slow or reluctant, he was encouraged to begin by drawing himself. No other pressures or suggestions were made. The child held up his hand when he was finished. One of the team then obtained the names of the people in the drawing and each one's activity, since young children frequently intend action of sophisticated and graphic movements which they can only verbalize. When these intentions were recorded, the child was allowed to return to his classroom.

### SCORING

All KFDs were assigned code numbers and listed by age and sex of artist. They were scored by two independent specialists who gave attention to characteristics of the drawings indicating feelings of (1) isolation-rejection, (2) body concerns, and (3) sibling rivalry (Burns & Kaufman 1970, 1972, Koppitz 1968). Feelings of isolation-rejection were scored if the

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*\*Our study, done solely for research and not individual diagnostic purposes, shows that group administration is extremely sensitive to clinical factors. It is necessary that individual administration of KFDs be used for diagnostic purposes. We also suggest that KFDs be backed up by a comprehensive psychological evaluation to insure accurate diagnoses.*

child drew himself separated from all other family members. This separation of individuals could be established by physical objects such as a car or furniture, lines representing rooms in the house, or his appearing on the back of the page. Body concerns were scored on the basis of Koppitz's (1968) criteria. These criteria are poor integration of body parts, excessive shading of a body area, omission of parts, numerous erasures, and exaggeration of any part of the body. This scoring system also takes into account the age and sex of the artist. For example, Koppitz's research showed that certain features indicating emotional problems for an 8-year old would not be significant for a 6-year old. Sibling rivalry was scored by the incidence of aggressive and competitive behavior. Included were throwing or hitting a ball toward a sibling, hitting him, or pushing a lawn mower toward him.

The drawings were scored by two raters, who neither collected the drawings nor assigned code numbers to them. It was found that, when clear definitions of criteria for scoring were provided, the KFD scoring was extremely reliable. Disagreements between the two scorers were solely on the indicators of body concerns in five drawings. These disagreements had to do with interpreting the small size of the child's own likeness, whether certain shadings indicated clothing, and what constituted an exaggerated body part. The data below for body concerns are those of the rater who was completely unaware of the aims of this study. Much to our surprise, there were no disagreements on isolation-rejection or sibling rivalry.

## RESULTS AND DISCUSSION

Chi-square with Yates's Correction for Continuity was used to analyze the frequency with which isolation-rejection, body concerns, and sibling rivalry occurred. KFDs of 43 of the 50 perceptual-motor delayed children had one or more of the signs while only 7 had none. KFDs of only 22 of the 50 nondelayed children had one or more signs. The difference between the two groups was statistically significant ( $\chi^2=19.38$ ,  $df=1$ ,  $p<.001$ ). The results were analyzed further by obtaining separate Chi-

square scores for each of the criteria. Isolation-rejection appeared in 25 of the drawings from the developmentally delayed group and in seven of the control group ( $\chi^2=14.89$ ,  $df=1$ ,  $p<.001$ ). Body concerns appeared in 29 of the drawings of the developmentally delayed group, and in 13 of the control group ( $\chi^2=10.50$ ,  $df=1$ ,  $p<.01$ ). Surprisingly, rivalry was observed in only six drawings of the perceptual-motor group and five drawings of the control group. There was no significant difference on this factor. Figure 1 shows a KFD with all three indicators drawn by a child in the perceptual-motor group.

This study offers interesting speculations concerning the emotional development of children with perceptual-motor delays. In our experience, older children, in the 10- to 12-year age range, who have experienced continued frustrations in school owing to a developmental disorder, tend to display concomitant emotional factors. The more fruitful outcome of research with KFDs may be for the treatment of such psychological problems. Knowing that a child's perceptual-motor development is delayed might suggest, in addition, coexistent feelings of isolation-rejection and other interpersonal problems. Therefore, the clinician may anticipate the nature of some emotional problems and, before they become too great, begin to help the child and family understand and deal with them. On the reverse, if these problems are identified early enough, the clinician may be alerted to other developmental difficulties that accompany or result from delayed perceptual and/or motor abilities.

The conclusions show that two clinical indicators of emotional involvement, isolation-rejection and body concerns, are more frequent in children of average intelligence who are slower than their peers to develop perceptual and/or motor abilities. Rivalry, the third indicator, appears to be as prevalent in the developmentally delayed group as in the nondelayed control group.

Further, the data from this study indicate that the KFD is a promising technique for use in a diagnostic clinical battery for young children. It is a useful tool for research and may

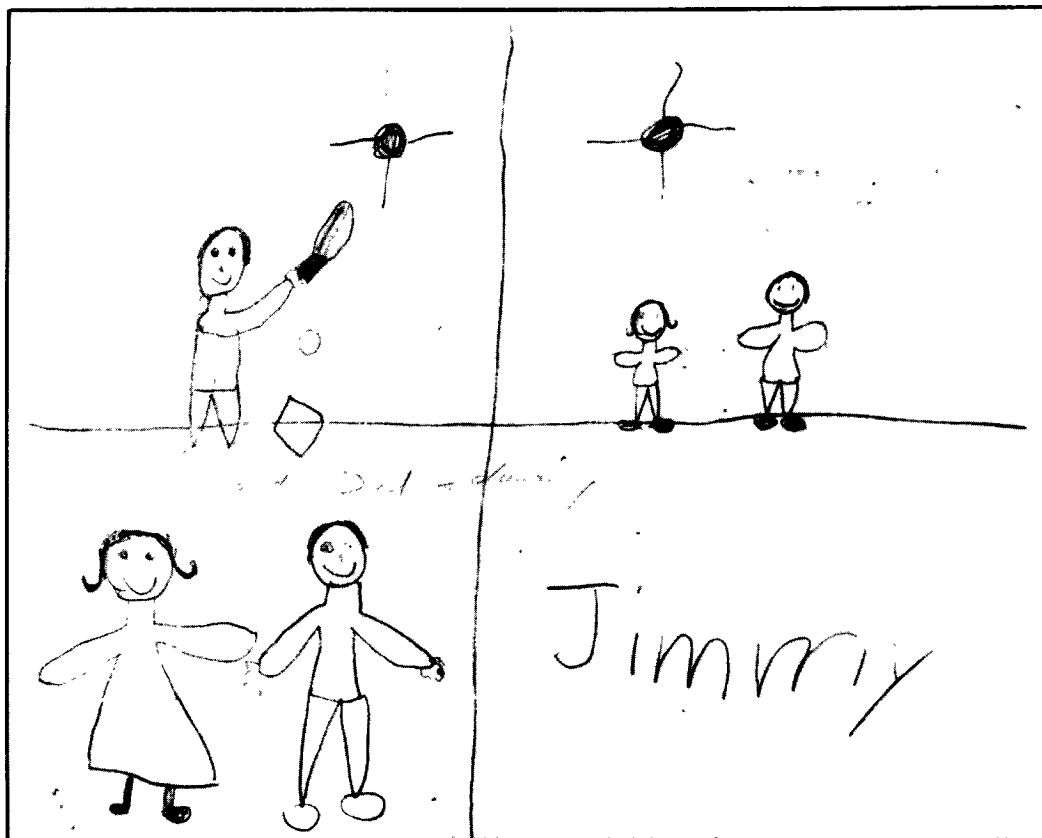


FIGURE 1. Kinetic Family Drawing illustrating all three indicators.

lend itself to inclusion in group screening procedures. We suggest, however, that a HFD also be obtained, since a child may often spend less time on the details of the KFD figures. While some appear to concentrate on the action and others on the figure, rarely did a child appear to concentrate on both. This made the scoring of body concerns very difficult. We also feel that additional research is needed to clarify findings such as these. Do children with perceptual-motor difficulties more or less automatically develop feelings of isolation and rejection, or do perceptual-motor difficulties produce drawing styles that invite such interpretation of KFDs? — *Child Evaluation Center, University of Louisville Medical School, 540 South Preston St., Louisville, Ky. 40202.*

#### ACKNOWLEDGMENTS

This research was supported in part by a Special Project Grant from the Maternal and Child Health Services, HEW, PHS-HSMA, and a National Founda-

tion-March of Dimes Grant to the Child Evaluation Center, Department of Pediatrics, University of Louisville School of Medicine. Opinions expressed are those of the authors and do not necessarily reflect those of the above agencies. Data were compiled for analysis by S.J. Baker, a student in the Department of Psychology, University of Miami, Coral Gables, Florida. The drawings were scored "blind" by Larry Raskin and Steve Klee, who was unaware of the nature of the study.

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## news

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MALNOURISHED CHILDREN WHO are adopted before they are 3 years old are likely to overcome their deficits in learning ability, height, and weight by the time they are 7-12 years old. Findings in support of this contention were reported by Jo Anne Brasel at a conference on food and nutrition sponsored by the New York Academy of Sciences. Three groups of Korean children were studied. The "well-nourished" group, when admitted to the adoption agency at less than 12 months, was above the 50th percentile for height and weight according to Korean standards. The second group, moderately nourished, was between the 25th and 3rd percentiles, and the third group consisted of children below the 3rd percentile on admission. All were adopted before 2 years of age and their growth and U.S. school achievement records were examined when they were 7-12 years old. The results show that all children exceeded Korean norms for weight and height but none reached U.S. norms. Also, the average IQ of the previously malnourished children matched the U.S. norm at follow-up.

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TO ASSIST OPTOMETRISTS who wish to become involved with federal programs in learning disabilities, the American Optometric Association's Public Health Committee has issued a manual of practical advice. The publication includes summaries and tests of applicable laws and regulations, plus ideas for specific optometric involvement. Similar manuals are available for federal programs in vocational rehabilitation and maternal and child health. Costing \$5 each, the manuals can be obtained from the AOA, 1730 M Street N.W., Washington, D.C. 20036.

ADDRESS CORRECTION: In the April issue of the *Journal*, the address on page 218 of Lotte Kaliski's article was given incorrectly. The correct address is 127 W. 79th St., New York, N.Y. 10024. We regret this error and ask readers to make the change in their copies.

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