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AUTHOR Baker, G. P.; Raskin, L. M.  
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ABSTRACT

Kinetic-Family-Drawings were obtained from 50 kindergarten or first grade children with delayed perceptual and/or motor development and 50 controls to investigate the effectiveness of this instrument as a measure of socio-emotional dimensions of high risk low achievers. Each child was asked to draw each member of his family (including himself) actively doing something. Drawings were scored on the criteria of isolation, bodily concerns, and rivalry. Results indicated that Ss having delayed development were differentiated from controls by a greater sense of isolation and bodily concern. Rivalry was not a significant discriminator.  
 (Author/DB)

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KINETIC FAMILY DRAWINGS OF KINDERGARTEN  
AND FIRST GRADE CHILDREN WITH DELAYED  
PERCEPTUAL AND MOTOR DEVELOPMENT

G.P. BAKER (U.S.A.)  
L.M. RASKIN (U.S.A.)

St. Elizabeth Hospital Medical Center (Ind.)  
Univ. of Louisville School of Medicine

Kinetic-Family-Drawings were obtained from 100 kindergarten and first grade children to investigate the effectiveness of this instrument as a measure of some socio-emotional dimensions of high-risk low achievers. Fifty children were randomly selected from a larger group of children who had been screened as having delayed perceptual and/or motor development. A second group of fifty children were randomly selected from the remainder of the population to serve as a comparison group. Each child was asked to make a drawing of his family including himself with everyone doing something. All one hundred drawings were scored on criteria developed from clinical experience: Isolation, Bodily Concerns, and Rivalry. These constructs were scored by frequency of occurrence in each drawing. The group having delayed development had a greater total score on these constructs than the group not developmentally delayed. A further analysis of the results suggested that Isolation and Bodily Concerns differentiate the children having delayed development from those who did not. Rivalry was not a significant discriminator. Kinetic-Family-Drawings add important clinical information. However, it's judicious use is advised on these preliminary data.

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KINETIC-FAMILY-DRAWINGS OF KINDERGARTEN  
AND FIRST GRADE CHILDREN WITH DELAYED  
PERCEPTUAL AND MOTOR DEVELOPMENT

G.P. Baker  
St. Elizabeth Hospital Medical Center  
Lafayette, Indiana

L.M. Raskin  
University of Louisville  
School of Medicine  
Louisville, Kentucky

Some socio-emotional dimensions of young children with delayed perceptual and/or motor development were investigated through Kinetic-Family-Drawings (K.F.D.). Human figure drawing is a widely used technique of psychologists working with children. Interest in children's drawings has existed in the United States and in Europe for a long time. As early as 1885 an article appeared in England by Ebenezer Cooke (Goodenough, 1926) in which he described developmental stages in children's drawings. There are two main approaches to the interpretation of children's drawings today. One approach is employed by clinicians who interpret them as projections of the child's unconscious self--an expression of inner needs, anxieties, and conflicts. The second is used by clinicians who regard them as gauges of mental maturity. A chief proponent of the simultaneous application of these explanations is Koppitz (1968). It is her hypothesis that human figure drawings reflect the child's current stage of mental development and interpersonal relationships, attitudes and concerns of the given moment and always are subject to change. For the last sixteen years, Burns and Kaufman (1970) have added to the instructions for children's drawings of human figures by asking them to draw everyone in their family doing something. These authors suggest that Kinetic (action) drawings have been found to be more informative than drawings obtained by the traditional akinetic instructions (p.9).

Our study incorporates the viewpoints of Kopppitz and Burns and Kaufman along with clinical experience with children who have learning problems. In our experience with these children, while they are of average intelligence, they often manifest delayed perceptual and/or motor development, frequently have difficulties in interpersonal relationships and sometimes appear "emotionally disturbed." These problems appeared in their drawings so frequently that it seemed useful to compare the drawings of children with maturational lag to the drawings of children not delayed developmentally.

The opportunity to study the two groups of children through their drawings came when an entire school population (n= 359) of kindergarten and first grade children were screened for a perceptual-motor program. All of these children were given the Martin Screening Test for Motor Disabilities (MST) and the Beery Test of Visual-Motor-Integration (VMI), to identify those who might benefit from supplemental programming.

According to developmental observation (Gesell, 1945; Sinclair, 1971), major milestones of motor development occur during the preschool years. Since no standardization data were available for the MST, a cut off score of 13 was arbitrarily chosen to insure the inclusion of the lower 30% of the kindergarten population in the supplemental program. For the first grade, where integrative abilities should be emerging (Birch and Belmont, 1965; Jones and Robinson, 1973), only the lowest sixth or 16% were selected, using an arbitrary cut off score of 15.

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 falling in the lowest 20%, according to this discrepancy, were also screened for the program.

Three groups were thus identified as being developmentally slower than their peer group as assessed by these measures: (1) those with low performance on the MST (n=52); (2) those with low performance on the VMI (n=42); and (3) those whose performance was low on both measures (n=29). One hundred twenty-three children were screened from the total population of 359.

Fifty of these developmentally delayed children were selected randomly to participate in the K-F-D study. An additional 50 children from the remainder of the population were chosen randomly for comparison. A unique procedure was followed for this study when the K-F-D's were administered in small groups of from 7 to 20 boys and girls. Burns and Kaufman directions (p.19 and 20) were followed in every other respect. The children were taken to an extra room in their school building which was large enough so that each child was seated far enough from the other that copying was nearly impossible. After the children were seated, one of a 3 to 5 member administration team handed each child a blank sheet of 8½ x 11 white paper. This was done so that the child could choose his own spatial orientation. Another team member handed each child a #2 pencil. The following directions were given to the group. "Draw a picture of everyone in your family, including you, doing something. Try to draw whole people, not cartoons or stick people. Remember, make everyone doing something - some kind of action." The administration team then moved about the room discouraging exchanges between children by seating themselves

toward one child to speak in soft encouraging tones while shielding the other child's view. If a child said, "I can't," he was encouraged to begin with himself. No other pressures or suggestions are made. The child held up his hand when he was finished and one of the team sat beside him to obtain the names of the people in the drawing and what each was doing. Young children frequently intend action which they will verbalize although their drawing ability lacks the sophistication to exhibit these movements graphically. When finished the children returned to their room one by one.

All 100 drawings without group identification were scored by Raskin on three criteria: Isolation, Bodily Concerns, and Rivalry. Isolation was determined in the drawings by separation of the child from the family by objects such as furniture, lines representing rooms, or on the back of the page. Bodily Concerns were scored according to Koppitz (1968) using such observations as integration of body parts, shading, omission, and exaggeration. In judging Rivalry, aggressive and competitive behavior was noted. This included playing ball, hitting, chasing, throwing and the like.

The results were analyzed by using the Chi-Square statistic based on frequency with which a criterion was observed and identified with one or the other group. These results are presented in Table 1. Thirty-eight of the children who displayed perceptual and/or motor developmental lag also displayed one or more of the criteria. Twelve of these children had no signs of socio-emotional disturbance. In the comparison group, 18 drawings had one or more signs, while 32 did not. Chi-Square was 28.41 which reveals ( $p < .001$ ) a probability of less than once in a

TABLE 1

Frequency of Isolation, Bodily Concerns, and Rivalry in  
Developmentally Delayed and Non-Developmentally Delayed  
Children

	Developmentally Delayed	Non-Developmentally Delayed
Yes	38	18
No	12	32

Chi-Square - 28.41      p. < .001

n = 100

thousand times would these results occur by chance alone. The results were analyzed further by obtaining a z score to determine the significant frequency of each criterion. Isolation appeared in 25 of the drawings from the developmentally delayed group and in only 7 of the comparison group. Thus a z score of 6.25 was obtained at  $p < .01$ . Bodily Concerns appeared in 17 of the drawings of the developmentally delayed group, while only in 6 of the comparison group. This produces a z score of 3.79 at  $p < .05$ . Surprising to us as clinicians, Rivalry was observed in only 6 of the treatment group and 5 of the comparison group which indicated no difference in this criterion.

The conclusions are that two clinical signs of socio-emotional disturbances were supported by statistical analysis. Isolation and Bodily Concerns are more frequent in children who are of average intelligence, but who are slower than their peers to develop perceptual and/or motor abilities. The third sign, Rivalry, appears to be as prevalent in the developmentally delayed group as in the their non-delayed counterparts. Thus it appears that this sign as far as K-F-D's are concerned can be expected in this population. Since the total population was more or less from the same socio-economic group, it would be interesting to determine if these results would hold up with children of different backgrounds.

The implications from this study suggest some interesting speculations concerning etiology of the socio-emotional constructs, but the more fruitful outcome is for the treatment of the problems. Knowing that a child is developmentally delayed would hasten us to assume that the probability is great that he will have feelings of isolation and perhaps other interpersonal problems in addition to

bodily concerns. This we can anticipate the nature of some of his socio-emotional problems and begin to help him and his family to solve them before they become too great. Conversely, if we identify these signs in a child of five to seven, we may be more alert to other developmental problems such as would be the result of delayed or poor perceptual and/or motor abilities.