

Emerging Literacy

I. Background Information

Measure/ Source:

- **McCarthy Draw-A-Design Task (from McCarthy Scales of Children's Abilities)**
- Publisher: The Psychological Corporation

Purpose of Measure:

As used in the Family and Child Experiences Survey (FACES): The Draw-A-Design Task was used to assess children's perceptual-motor skills. This task asks the child to draw copies of a series of increasingly complex geometric figures.

Population Measure Developed With:

- 2479 children in the FACES sample between the ages of 3 and 5.
- The FACES sample was randomly drawn from a stratified probability sample of 43 Head Start programs selected to represent the universe of Head Start programs in the 50 states, excluding migrant programs and American Indian programs.

	African American		White		Hispanic		Other		Total	
	N	%	N	%	N	%	N	%	N	%
Male	343	13.8	471	19.0	363	14.6	65	2.6	1242	50.1
Female	383	15.4	415	16.7	371	14.9	68	2.7	1237	49.9
Total	726	29.3	886	35.7	734	29.6	133	5.4	2479	100

Key Constructs of Measure:

Perceptual-motor skill: Asks the child to make copies of a series of increasingly complex lines and geometric figures, such as a circle, right angle, and star. The child's score is based on number of figures successfully copied and rated quality of drawings of more complex figures.

Norming of Measure (Criterion or Norm): Criterion

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II. Administration of Measure

McCarthy Draw-A-Design Task (Con't.)

Who is the Respondent to the Measure?:

The McCarthy Scales of Children's Abilities is designed to assess the cognitive development of preschool and primary grade children between the ages of 2 ½ and 8 ½.

Who Administers Measure/ Training Required?:

Trained assessors. Training is required for the standardized administrative procedures of the task. In FACES, detailed scoring of children's drawings were done back at the home office by a small group of trained scorers.

Setting (e.g. 1 on1, group level, etc): 1 on 1

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III. Functioning of Measure

McCarthy Draw-A-Design Task (Con't.)

Reliability:

Reports from “The Psychoeducational assessment of preschool, 2nd Ed.” (Bracken, 1991):

Internal Consistency (Cronbach’s Alpha)

- Reliability, as measured by internal consistency, averages .93 for all subscales of the McCarthy (Bracken, 1991). Internal consistency of the Perceptual-Performance subscale, of which the Draw-A-Design Task is one component, was .90 for 3.5 years-old children and averaged .84 across all ages (3-8 years).

Reliability with FACES data

Internal Consistency (Cronbach’s Alpha)

- .58

Test-Retest (6-9 month interim period)

- .48

Validity: For first cohort of FACES study (1997-1999), we conducted validity analyses for entire FACES battery, of which the Draw-A-Design task was a component. Two outcome variables were used in these analyses: ECLS-K Reading Scale and ECLS-K General Knowledge Scale.

Predictive Validity:

- Correlation between Draw-A-Design scores at end of Head Start year (spring 1998) and ECLS-K Reading scale scores at end of kindergarten year (spring 1999): $r = .33$
- Correlation between Draw-A-Design scores at end of Head Start year (spring 1998) and ECLS-K General Knowledge scale scores at end of kindergarten year (spring 1999): $r = .46$
- In multivariate regression analyses with the scale scores from entire FACES battery at the end of Head Start year predicting ECLS-K Reading scores at end of kindergarten year, the Draw-A-Design task was a significant predictor in the model (beta = .10).
- In multivariate regression analyses with the scale scores from entire FACES battery at the end of Head Start year predicting ECLS-K General Knowledge scores at end of kindergarten year, the Draw-A-Design task was a significant predictor in the model (beta = .06)

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Sensitivity to Environmental Variation (specify if intervention):

- Over the course of the Head Start year, children's raw scores on the Draw-A-Design were found to increase significantly (effect size = .62). However, we do not know whether this represents more than expected developmental gains, as national norms for this subtest are not available.
- In FACES, the Draw-A-Design task has been found to identify the differential school readiness skills of preschool children from low income families (Zill, Resnick, McKey, Clark, Connell, Swartz, O'Brien, & D'Elio, 1998; Zill, Resnick, Kim, McKey, Clark, Pai-Samant, Connell, Vaden-Kiernan, O'Brien, & D'Elio, 2001)

Concerns, Comments & Recommendations:

- In FACES, the Draw-A-Design task is part of a battery of tests used to assess school readiness in preschool children from low income families.
- Children enjoy the drawing task, which introduces variety into battery.
- Language minority children do as well as language majority children on this task.
- Fine motor activities that might be expected to enhance this skill are common in Head Start and other preschool program.