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PERFORMANCE OF IRANIAN CHILDREN ON THE DRAW-A-MAN TEST

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ABSTRACT

In this study, the Draw-A-Man Test was administered to 183 Iranian children, 96 boys and 87 girls from age of 36 to 119.5 months. The subjects were selected randomly from middle-class families in Tehran. The results show that younger Iranian children scored higher than the older ones. In addition to the age differential on performance, sex differences on drawing a man were tested by means of the T-test for each age group. The results show that enviroment affects the children's drawings. Also, some comparisons of the findings of this study with others confirm the cultural effects on children's performance on the DAM test.

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INTRODUCTION

The issue of "cultural-bias" and "culture-free" intelligent tests is one of the basic issues in educational and psychological measurements and evaluations. The present study offered an excellent opportunity to add to the Goodenough Draw-A-Man Test (DAM) literature on cross-cultural comparison, as it involved the performance of Iranian children on the DAM, which could be compared with performance of other children from different cultures.

Goodenough primarily introduced the DAM as a "culture-free" measure of general intelligence, because no language skills were required as is in the case for many other intelligence tests. This test (DAM) has been used widely as a test of intelligence in comparative studies of children with different cultural backgrounds. It is easily administered, requiring only a piece of paper and a pencil, and instructions to "draw a man, the best man that you can."

The test is scored by counting the number and accuracy of details in the figure drawn. The DAM might be described operationally as one of accuracy of perception, since the child is scored for the accuracy with which he or she represents a man; or as a measure of "mental alertness", of attention given to one's social environment.

However, some studies (Dennis, 1942; Havighurst, 1946) indicated that the remarkably high scores by boys from special cultures could be related to the emphasis which their culture traditionally places on male art skills. For example, Havighurst (1946), in his study, concluded that "the evidence points strongly to the conclusion that environment affects the performance of children on the DAM test."

Both positive and negative evidence of cultural influences on children's DAM scores has been so overwhelming that Goodenough has since withdrawn her claim in 1950, as follows: "Considering all the evidence thus far described, it is clear that cultural differences do appear to a greater or less extent in the drawing of children. The present writers would like to express the opinion that the search for a culture-free test, whether of intelligence, artistic ability, personal-social characteristics, or any other measurable trait is illusory, and that the naive assumption that the mere freedom from verbal requirements renders a test equally suitable for all groups is no longer tenable."

In later studies (Dennis, 1957, 1966; Levensky, 1970), the researchers have attempted to determine the specific cultural factors which influence children's DAM performance. On the basis of a valuable complication of cross-cultural data, in their studies they have concluded that a group's mean DAM score is an excellent indicator of the amount of experience it has had with representational art, and of encouragement to

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Table I. Distribution of Subjects in Terms of Their Chronological Age.

Age in Months	Boys	Girls	Total
36-47.5	10	11	21
48-59.5	16	16	32
60-71.5	10	10	20
72-83.5	20	14	34
84-95.5	14	12	26
96-107.5	10	10	20
108-119.5	16	14	30
Total	96	87	183

engage in it.

In the present study, the DAM was administered as a general measure of mental alertness to Iranian children. Also, as a by product of this study, some consideration is given to the effects of culture on performance. Differences in average IQ scores are taken as indicators of environmental differences.

METHODS

Subjects

Subjects were 183 Iranian children who were selected randomly from different age groups of middle-class children in Tehran. Their age distribution is as shown in Table I.

Procedure

The DAM was administered to the Iranian children according to Goodenough's original instructions (1926). For each age group the children who had been selected were taken from their classes and tested as a set up age group for this study.

The test adiministrators were one of the researchers in this study. Each picture was strictly scored by the researchers in a separate time according to the original Goodenough criteria (1926). The inter-score reliability was established among two scorers. The final raw score correlations among the two scorers was 0.98.

RESULTS

Draw-A-Man Tests for 183 Iranian children, 96 boys and 87 girls were scored and the associated IQ scores were computed.

Then, the children in each Iranian age group were divided by sex. The average IQ scores and respected standard deviation were computed for each sex group, as well as the age group which are shown in Table II through Table VIII. Also differences of children's performance on the DAM in terms of sex for each age group were tested by means of the T-test, as the results

Table II. Characteristics* of The Age Group of 36-47.5 Months.

	N	$\overline{C.A.}$	$\overline{IQ}$	Sd
Boys	10	41.8	128.6	12.11
Girls	11	39.8	123.5	16.66
Total	21	40.76	125.93	15.39

p = %1 df = 19 T = 0.79

* N = Number of subjects
$\overline{C.A.}$ = Average chronological age
$\overline{IQ}$ = Average Intelligence - quotient on DAM Test
Sd = Standard Deviation of IQ scores
p = probablility level
df = Degrees of freedom
T = T test

Table III. Characteristics of The Age Group of 48-59.5 Months.

	N	$\overline{C.A.}$	$\overline{IQ}$	Sd
Boys	16	54.1	120.6	15.82
Girls	16	51.6	153	13.38
Total	32	52.85	136.8	14.47

P = %1 df = 30 T = 6.08

Table IV. Characteristics of The Age Group of 60-71.5 Months.

	N	$\overline{C.A.}$	$\overline{IQ}$	Sd
Boys	10	67.4	110.2	14.86
Girls	10	65.6	150.4	20.64
Total	20	66.5	130.3	21.58

p = %1 df = 18 T = 3.96

Table V. Characteristics of The Age Group of 72-83.5 Months.

	N	$\overline{C.A.}$	$\overline{IQ}$	Sd
Boys	20	78	105.9	19
Girls	14	77.2	137.2	31.79
Total	34	77.67	118.79	25.7

P = %1 df = 32 T = 3.37

are reported at the end of each respective table.

Finally, the average IQ scores on the DAM for each Iranian age group were compared with the average IQ scores of children from other cultures as were available, which are shown in Table IX and X.

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Table VI. Characteristics of The Age Group of 84-95.5 Months.

	N	C.A.	IQ	Sd
Boys	14	91.2	99.5	9.64
Girls	12	88.9	121.9	12.06
Total	26	90.14	109.84	10.83

p = %1 df = 24 T = 5.34

Table VII. Characteristics of The Age Group of 96-107.5 Months.

	N	C.A.	IQ	Sd
Boys	10	97	104.5	26.62
Girls	10	98.5	112.9	23.63
Total	20	97.75	108.7	24.69

p = %1 df = 18 T = 0.72

Table VIII. Characteristics of The Age croup of 108 - 119.5 Months.

	N	C.A.	IQ	Sd
Boys	16	111.3	94.63	23.94
Girls	14	111.4	98.29	23.28
Total	30	111.35	96.34	23.63

p = %1 df = 28 T = 0.40

Table IX.
Comparison of Iranian Children's performance on DAM Test with children from other cultures Regardless of Schooling Grades.

	No.of Subjects	Mean IQ DAM			Testing Time
		Boys	Girls	Total	
Iranian	183	108.21	128.73	117.97	1985
Eskimo	121	103.0	102.7	102.9	1969
Indian	23	84.1	93.5	89.8	1969

DISCUSSION

Table II through VII present that younger Iranian children almost scored higher than the older children on the DAM test. In addition to the age differential performance, the result of T-test for testing the statistical significance of sex differences on Iranian children's performance on the DAM in each age group present the following results:

1. There were no significant differences between boys' and girls' performance on DAM test at age 36-47.5 months.
2. The girls between age 48-95.5 months scored significantly higher on DAM than the boys with the same age level.
3. There were no significant differences between boys' and girls' performance on DAM test at age 96-119.5 months.

Table X.
Comparison of Iranian children's Performance on DAM with Children from Indian Culture considering Schooling Grades.

IRANIAN				INDIAN			
Ave.Age in Month	N	IQ	Sd	Grade	N	IQ	Sd
40.76	21	125.93	15.39	—	—	—	—
52.85	32	136.8	14.47	—	—	—	—
66.5	20	130.3	21.58	—	—	—	—
77.67	34	118.79	25.7	kidgn	19	89.8	10.6
90.14	26	109.84	10.83	First	17	90.9	10.6
97.75	20	108.7	24.69	Second	16	97.3	16.1
111.35	30	96.34	23.63	Third	7	104.3	19.5
Total	183	117.97	—	—	—	—	—
—	—	—	—	Fourth	9	102.4	18.7
—	—	—	—	Fifth	13	98.8	12.8
—	—	—	—	Sixth	10	102.6	17.1
—	—	—	—	Total	91	96.3	—

Comparisons of Iranian Children's Performance on DAM Test with Other Cultures

Unfortunately there is very little data on other cultures with which to compare the findings of this study. Thus only the performance of Iranian children on the DAM test was compared with the Indian and Eskimo cultures which were available. This comparison shows that Iranian children scored children from Indian and Eskimo cultures.

CONCLUSION

The researchers of this study which are familiar with

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Iranian culture agreed that:

a. The reason for lack of significant differences between boys' and girls' performance on the DAM test at age 36-47.5 months is because the children at this age level usually are kept at home. In other words, they have almost the same environment.

b. The reason for girls having significantly higher scores on the DAM test than the boys at age 48-95.5 months is because by this age level, boys usually are allowed to go out and become involved with outside activities, while girls, especially in the metropolitan areas, will stay at home and are encouraged to be engaged by indoor activities, such as drawing.

c. The reason for lack of significant differences between boys' and girls' performance on the DAM test at age 96-119.5 months is because the children at this level of age have almost the same social environment.

Also, comparisons of the perfomance of Iranian children of the DAM test with scores of children from other cultures shows that Iranian children, which were selected randomly from middle-class family from a metropolitan city in Iran, scored higher than children from other cultures.

Finally, on the basis of these conclusions and findings, the present study confirms that the environment affects the performance of children's drawings. Therefore it is not reasonable to take children's drawings as a mere measure of intelligence.

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