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To continue exploration of the educational problems of deprived children, 32 disadvantaged and 32 advantaged children ranging in age from 4 years, 8 months to 5 years, 8 months, were selected to take a battery of tests designed to measure some of the skills and characteristics thought to be related to academic success. The factors measured and the tests used were (1) general intellectual functioning (Stanford-Binet), (2) learning processes (Paired Associates Learning Tasks), (3) impulsivity and reflectivity (Matching Familiar Figures Test and Children's Embedded Figure Test), (4) inhibition of motor behavior on adult command (Motoric Inhibition Test), and (5) exploratory behavior (Reactive Object Curiosity Test). Comparison of the results of the tests showed that the advantaged children were more efficient in intellectual performance and paired associates learning than disadvantaged children of the same age. Tenative support was found for the hypothesis that disadvantaged children are more impulsive in response disposition. There was no support for the hypotheses that disadvantaged children inhibit motor behavior less on verbal adult command or show less object curiosity than the advantaged child. (MH)

SOCIOECONOMIC BACKGROUND AND COGNITIVE FUNCTIONING IN PRESCHOOL CHILDREN[1]

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Much recent research has reflected contemporary concern with the culturally disadvantaged child. Hess and Shipman (1965), Gray and Klaus (1965) and a growing number of other investigators have attempted to describe, explain, and alter the disadvantaged child and his world. Among the many observations which have been made, a number of investigators have recorded the comparatively inferior performance of culturally disadvantaged children on standard tests of intelligence and a scholastic achievement which deteriorates as education progresses (Hess and

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Shipman, 1965). Along with such global indicants of deficient performance, Hess and Shipman (1965) discussed more specific kinds of maladaptive response patterns such as acting impulsively or taking little time to reflect about probable consequences of behavior. Gray and Klaus (1965) made similar observations and described environmental conditions which could lead to a variety of maladaptive behaviors in young children. Among these were that disadvantaged children appeared to receive verbal command to control specific behaviors less frequently than more advantaged children and that they were more often punished for exploratory behavior.

The present study was designed to explore both the general and specific deficits discussed above. The Stanford Binet was employed as a measure of general intellectual functioning; a paired associates learning task was used to assess learning processes similar to some of those reflected in scholastic achievement. A number of measures were employed to tap the more specific behavior patterns suggested by the above investigators. The Matching Familiar Figures Test (MFFT) developed by Kagan and his associates (Kagan, 1965a; Kagan, Moss, & Sigel, 1963) was used to measure the children's tendency to be impulsive or reflective. Kagan (1965a) found that a median split on errors and mean reaction time to first response reliably identified children's tendency to be impulsive or reflective. Reflectivity, taking more time to respond and making fewer errors, was found to correlate positively with success on a number of tasks such as a measure of inductive reasoning (Kagan, Pearson, and Welch, 1966) and word reading in primary grade children (Kagan, 1965b). Stevens (1967) demonstrated that when mean reaction time to first response and errors were recorded on the Children's Embedded Figures Test (CEFT) developed by Karp and

Konstadt (1963), they correlated significantly with similar scores on the MFFT. The CEFT was, therefore, included as a second measure of the tendency of disadvantaged children to act impulsively with little concern for potential outcome. To test possible consequences associated with less frequently receiving verbal requests for behavior control among the disadvantaged (Gray and Klaus, 1965), a procedure devised by Maccoby, Dowley, Hagen, and Degeman (1965) was used. The Motoric Inhibition Test (MIT) they employed required children to inhibit their motor behavior upon verbal request from an adult. To measure children's exploratory behavior, a test designed by the second author was used. In this task, called the Reactive Object Curiosity Test (ROCT), the exploratory activities of children placed in a room with hidden toys was observed.

On the basis of the previously discussed observations, disadvantaged children were expected to be less proficient in general intellectual functioning and paired associate learning than more advantaged subjects. They were expected to be more impulsive, to inhibit their motor activity less efficiently upon verbal request and to manifest less exploratory behavior. General intellectual functioning and paired associate learning were expected to be correlated. Significant relationships among impulsivity, deficiencies in inhibiting motor activity and constricted exploratory activity were anticipated. On the basis of Maccoby's et al. (1965) work, effective inhibiting of motor responses was expected to correlate significantly with intellectual functioning. On the other hand, the Kagan's (1965a) results suggested that few if any significant correlations would be found between performance on measures of reflection-impulsivity and IQ. Interest in the early manifestations of the cognitive processes reflected in the above measures led to the choice of children of kindergarten age from both advantaged and disadvantaged preschool populations.

Method

Subjects

Subjects were 32 children selected from two Nashville preschools serving middle and upper middle class families and 32 children from Nashville area preschools for the culturally disadvantaged. Occupations of the fathers of the advantaged sample fell into groups I, II, and III on the Hollingshead (1965) scale, while ratings of VI and VII were appropriate for occupations of the fathers in the disadvantaged sample. One half of the children in the disadvantaged sample were from the urban metropolitan area; half were from a nearby rural community. One half of the urban sample or one fourth of the total disadvantaged sample was black; one child within the middle class sample was also black. An equal number of subjects within each socioeconomic group were males and females. All Ss ranged in age from 4 years, 8 months to 5 years, 8 months. The mean age for the advantaged group was 5 years, 5 months; while that of the disadvantaged group was 5 years, 4 months.

Procedure

All Ss had been given the Stanford Binet IQ test within six weeks prior to administration of the remainder of the test battery. All Ss were tested individually by two female Es who administered the MFFT, CEFT, MIT, ROCT, and PALT to an equal number of randomly assigned boys and girls from each preschool. The MFFT and CEFT were given in the first session and their order was counterbalanced. The MIT and ROCT were given in counterbalanced order during the last session. The PALT was always the last test given during the final testing session.

The MFFT and CEFT were administered according to the procedure specified by Stevens (1967). On each trial of the MFFT, the child was presented a standard stimulus along with six comparison stimuli, five of which varied slightly in detail from the standard. He was told to point to the one which was the same as the standard. If his first response was incorrect, he was so informed and allowed to continue attempting solution until he was correct. Two practice and 12 test trials were given. The mean reaction time to first response and the number of errors was recorded for each S. Mean reaction time to first response and errors was also recorded for the CEFT. On this task the child was required to find a small standard figure imbedded within a larger one. There were 25 chromatic test items including 11 for the tent stimulus and 14 for the house stimulus. Prior to the tent test trials, there were four practice trials on which the S was required to match the standard tent to one of four alternatives and three trials on which he was required to find the embedded figure and was given feedback regarding his accuracy. Prior to the house series there were three matching trials and one trial exemplifying embeddedness. No feedback regarding accuracy was given during the test trials.

For the MIT, a procedure similar to that described by Maccoby et al. (1965) was used. On the first of three subtests, the child was shown a sheet of paper with pictures of two telephone poles approximately 11 inches apart, connected by a wire and asked to draw another wire between them. When he finished, he was given a second sheet and asked to draw the line as slowly as he could. On the second subtest he was asked to crank a toy car hooked to the end of a 30 inch string on the winch of a toy wrecker truck and then to crank it as slowly as he could. On the final subtest, the S was asked to walk between 6 foot long lines placed 5 inches apart and then walk as slowly as he could. A z transformation was made on each subtest time under slow instructions before subtest scores were summed to yield the mean time under slow instructions for each S.

The ROCT consisted of a 9 foot square vinyl mat marked into 27 inch squares. In each square, a toy was placed under an opaque bucket. The S was taken to the middle of the mat and told that there were toys under the covers with which he could play while the E was gone. It was emphasized that he could play with whatever he liked in E's absence. E left and S was observed through a one-way glass for 5 minutes. The number of contacts and manipulations he made were counted and the duration of the manipulations were recorded. A contact was defined as lifting a cover; a manipulation, as touching and/or manipulating a toy.

The final test in the battery, the difficult form of a paired associate learning task (PALT) was administered according to the procedure specified by Archambo (1967). It was constituted by a set of six pairs of pictures of common objects chosen for their low associative strength. The stimulus picture was flashed on the screen for 3 seconds, followed by and occurring simultaneously with the response stimulus for 3 seconds. The intratrial interval was also 3 seconds. A criterion of two errorless sets was employed. Number errors to criterion were recorded for each S.

Results

A 2(Advantage-Disadvantage) x 2(Sex of S) x 2(E) analysis of variance was run on all ten dependent measures. A main effect of advantage significant at the .05 level or beyond, was found on all variables except the mean inhibition of movement score for the MIT and the number of contacts and number of manipulations on the ROCT. The main affect of Sex of S did not reach significance in any of the analyses of variance. The only analysis in which there was a significant main affect of E was in the analysis of errors to criterion on the PALT. No interaction in any one of the analyses on the ten dependent variables reached significance at the .05 level.

The mean Binet IQ was 122.59 for the advantaged and 91.97 for the disadvantaged, indicating a significantly higher intellectual performance on the part of the advantaged (F 1, 56 = 67.30, $p < .001$).

On both the MFFT and the CEFT, advantaged Ss had fewer mean errors and longer mean latencies than did disadvantaged Ss. The mean MFFT error score for advantaged Ss of 24.50 differed significantly at the .001 level from the disadvantaged mean error score of 30.00 (F 1, 56 = 11.58). At the same time, the mean latency score of the advantaged Ss of 7.49 seconds was significantly longer ($p < .006$) than the mean latency of the disadvantaged Ss (M = 5.24, F 1, 56 = 8.29). The CEFT mean error score of the advantaged Ss was 17.38 while the disadvantaged S's mean error score was 19.84. The difference was significant at the .002 level (F 1, 56 = 10.26). The difference between the advantaged mean latency of 11.36 seconds and the disadvantaged mean latency of 7.26 seconds was significant at the .007 level (F 1, 56 = 7.76).

The ROCT mean manipulation time of the advantaged Ss was 23.45 seconds; the mean of the disadvantaged was 48.31 seconds. The significant difference between the means (F 1, 56 = 4.50, $p < .038$) indicated that the mean manipulation time per object of disadvantaged Ss was longer than that of advantaged Ss.

The mean errors to criterion on the paired associates learning task of the advantaged group (M = 18.53) was significantly less than the mean of the disadvantaged (M = 39.56, F 1, 56 = 17.97, $p < .00008$). The .003 level of significance (F 1, 56 = 9.33) was reached by the difference between the mean number of errors of Ss tested by E_1 (M = 36.625) and that of Ss tested by E_2 (M = 21.47).

See Table 1

Table 1 presents intercorrelation matrices of the ten dependent measures on data from all Ss, advantaged Ss, and disadvantaged Ss. The intercorrelation matrix based on data from all Ss resulted in a number of correlations significant at the .05 level and beyond with a two-tailed test. Significant ($p < .01$), moderately high correlations were found between MFFT error and CEFT error (r = .56) and between MFFT latency and CEFT latency (r = .43). On both the MFFT and CEFT, significant ($p < .01$), negative correlations were found between error and latency (MFFT r = -.48;

CEFT $r = -.42$). Significant, moderately high positive correlations were found between IQ and MFFT latency ($r = .52$, $p < .01$), between IQ and CEFT latency ($r = .28$, $p < .05$). Significant, moderately high negative correlations were also found between IQ and MFFT error ($r = -.53$, $p < .01$), IQ and CEFT error ($r = -.55$, $p < .01$), and between IQ and PALT errors ($r = -.56$, $p < .01$). Neither MIT nor ROCT measures correlated significantly at the .05 level with IQ. The correlation of MIT scores and CEFT latency ($r = .23$) reached the .05 level of significance as did that of MIT mean time under slow instructions and ROCT contacts ($r = .24$).

While the pattern of intercorrelations was much the same when the scores of advantaged and disadvantaged *S*s were analyzed separately, some differences were found. The generally smaller magnitude of the correlations was probably partially the result of the smaller N and the associated restricted range of scores.

When the relationship with IQ was partialed out, neither the correlation of MFFT latency with PALT error ($r = .15$) nor the correlation of MFFT error and PALT error ($r = .22$) reached the .05 level of significance. This was also true of the correlations of PALT error with CEFT latency ($r = .006$) and error ($r = .008$).

Median splits were made on MFFT latency and error scores and on CEFT latency and error scores. The two categories of principle interest were the reflective category consisting of *S*s with low error and long latency, and the impulsive category defined by high error with short latency. A chi-square (X^2) was computed, classifying *S*s as advantaged or disadvantaged and reflective or impulsive on the basis of MFFT performance. The X^2 of 14.81 was significant at the .01 level and beyond, indicating a significant relationship between the two classifications. Seventeen advantaged Ss were reflective; four were impulsive. Six disadvantaged Ss were reflective; 19 were impulsive. A similar pattern was found with the X^2 analysis of the data from the reflective and impulsive median split of CEFT scores. The X^2 of 10.73 was significant at the .01 level. Fifteen advantaged Ss were reflective; five, impulsive; while five disadvantaged Ss were reflective and 16 were impulsive.

For Ss classified as impulsive or reflective on the basis of MFFT performance, t tests were computed on IQ scores. The t of 3.66 was significant at the .01 level indicating that the mean IQ of 121.34 of the reflective Ss was significantly higher than the mean IQ score of 94.91 of the impulsive Ss. On the other hand, the t of .76 comparing the mean IQ of Ss in the short latency, few errors (M = 100.3) with the mean of Ss in the long latency, many errors group (M = 109.8) did not reach the .05 level of significance.

Discussion

The often observed deficiency in performance on measures of intellectual functioning such as the Stanford Binet and on learning tasks like the PALT was again corroborated by the data of this study. Some support for the hypothesis that disadvantaged Ss would tend to be more impulsive and less reflective in response disposition than advantaged Ss was also provided by the data. Analyses of variance revealed that disadvantaged children made more errors with shorter latencies than advantaged children on both the MFFT and the CEFT. The chi-square analyses based on scores of Ss categorized as advantaged-disadvantaged and reflective-impulsive was statistically significant. However, interrelationships among intellectual functioning, reflectivity and advantage made interpretation of the reflectivity-advantaged relationship somewhat difficult.

Significant correlations were found between MFFT and CEFT latency and error scores and IQ. T-test results also reflected the relationship between impulsivity-reflectivity and IQ. Subjects classified as reflective on the basis of MFFT median splits on error and latency obtained significantly higher IQ scores than Ss classified as impulsive. On the other hand, no differences in IQ were found between Ss who made many errors with long latencies and those who made few errors with short latencies. The significant correlations between MFFT and CEFT error and Binet performance is similar to the correlation between MFFT error and performance on measures of verbal ability found by others (Kagan, 1966; Kagan et al., 1966; Ward, 1968). However, previous investigations (Kagan, 1966; Kagan et al., 1966; Ward, 1968) have generally failed to find significant correlations between MFFT latency and measures of verbal ability. The significant correlation found here between latency and Binet IQ was, therefore, unexpected. Several factors may have contributed to the difference in results. The significant correlation may have been due to the relationship between latency and abilities other than verbal tapped by the Stanford Binet. The correlation may also have been influenced by the somewhat greater range in Binet IQ represented in the present sample. Nevertheless, impulsivity-reflectivity does not appear to have been orthogonal to general intellectual functioning in this sample. The data suggest that advantaged and disadvantaged groups, equated on the basis of Binet performance, would be necessary to determine whether disadvantaged Ss tend to be more impulsive than advantaged Ss, independently of their general intellectual functioning.

The expected significant correlation between IQ and PALT learning occurred. Correlations between both latency and error scores on the measures of impulsivity-reflectivity were also significant. However, it was found that correlations of MFFT latency and error scores with PALT error scores were no longer significant when the relationship of these variables to IQ was partialed out. A possible explanation is that reflectivity may not have been a response disposition which facilitated solution of the PA learning task employed. Time of the response interval was controlled by the experimenter and constant for all Ss; memory may have been the skill most required for rapid task solution.

As Stevens (1967) suggested, the CEFT appears to be similar to the MFFT in the response dimension it measures. The significant negative correlation found here and by previous investigators (Kagan, 1965a; Ward, 1968) between error and reaction time to first response on the MFFT was also found on the CEFT. Significant, positive correlations were found between CEFT and MFFT latency and between CEFT and MFFT error. In addition, the pattern of correlations between CEFT scores and other measures was similar to that found with the MFFT.

Results of the analysis of variance of responses on the MIT did not support the hypothesis that disadvantaged children would inhibit their motoric responses less upon verbal request than would advantaged children. Correlations computed on the basis of data from all Ss revealed no significant relations between performances on the MIT and on other measures. Thus the significant correlation between MIT scores and IQ expected on the basis of the work of Maccoby et al. (1965) was not found.

Since the advantaged sample of this study was more like the sample described by Maccoby et al., the correlation of MIT and IQ based on the advantaged scores alone was examined. While the correlation did not reach .05 level significance, there was a trend toward significance in the direction found by Maccoby and her associates.

In addition to the greater range in IQ represented by the total sample of the present study than the range in the Maccoby et al. sample, there was also a difference in subject age. Subjects in the Maccoby et al. (1965) sample were between the ages of four and five; Ss in this sample were between five and six years of age. It may be that in children under five, the ability to inhibit motor response upon request is related to intellectual performance, but that after five most children within the normal range of intellectual ability can inhibit their motor responses. Had such been the case, it might have been expected that the disadvantaged Ss would have performed more like the less developmentally advanced Ss of Maccoby's study. To the contrary, it was the year older advantaged Ss whose socioeconomic background and IQ range were similar to the Maccoby et al. (1965) sample whose performance more closely resembled Ss of the Maccoby sample.

Contrary to predictions, the results of analyses of the ROCT scores did not indicate that culturally disadvantaged children manifested less object curiosity than advantaged children. While no significant differences were found between the two groups in number of contacts or manipulations, the mean manipulation time was significantly longer for disadvantaged Ss than for advantaged Ss. A significant positive correlation was found between MFFT and CEFT errors and ROCT mean manipulation time for the same group. For the advantaged Ss who represented the upper ranges of IQ, an unexpected significant negative correlation was found for IQ and ROCT mean manipulation time.

That disadvantaged Ss tended to manifest more reactive curiosity than advantaged Ss may have been a function of the stimuli used in the task. All objects were inexpensive, small toys readily available in local variety stores. They may have been more familiar and thereby less novel and interesting for the advantaged Ss. A similar ROCT curiosity task with stimuli novel for both groups might have resulted in different findings. On the other hand Kagan's (1966) discussion of individual differences in assimilating external stimulation suggests that brighter children may adapt and habituate to stimuli more rapidly because of their superior information processing abilities. This line of reasoning suggests that while advantaged Ss might manipulate a more novel or complex toy longer, their mean manipulation time would still be less than disadvantaged Ss'.

In summary, the results of the study supported the hypotheses that culturally disadvantaged preschool children would be less efficient in intellectual performance and less efficient in paired associate learning than advantaged children of the same age. Tentative support was found for the hypothesis that disadvantaged Ss would be more impulsive in response disposition. The data did not support the hypothesis that the culturally disadvantaged would inhibit their motor responses less upon verbal request or manifest less object curiosity than the advantaged children.

References

Archambo, J. P. Performance of Negro boys on a picture paired-associates learning task as a function of the race and sex of the examiner, difficulty of the task, type of instructions and pre-training experience. George Peabody College, Nashville. Office of Education, U. S. Department of Health, Education, and Welfare. Contract No. OEC-2-7-070462-2722. July 31, 1967.

Gray, S. W., & Klaus, R. A. An experimental preschool program for culturally deprived children. Child Development, 1965, 36, 887-898.

Hess, R. D., & Shipman, V. C. Early experience and the socialization of cognitive modes in children. Child Development, 1965, 36, 869-886.

Hollingshead, A. B. Two Factor Index of Social Position. New Haven, Connecticut, The Author, 1957. 11p. mimeographed.

Kagan, J. Impulsive and reflective children: The significance of conceptual tempo in J. D. Krumboltz (Ed.), Learning and the educational process. Chicago: Rand McNally & Co., 1965, Ch. 6.(a)

Kagan, J. Reflection-impulsivity and reading ability in primary grade children. Child Development, 1965, 36, 609-628. (b)

Kagan, J. Developmental studies in reflection and analysis. In A. H. Kidd & J. L. Rivoire (Eds.), Perceptual development in children. New York: International Universities Press, Inc., 1966. Pp. 487-522.

Kagan, J., Moss, H. A., Day, D., Albert, J., & Phillips, W. Information processing in the child. Psychological Monographs, 1964, 78, No. 578. Pp. 1-37.

Kagan, J., Moss, H. A., & Sigel, I. E. Psychological significance of styles of conceptualization in basic cognitive processes in children. In J. C. Wright & J. Kagan (Eds.), Basic Cognitive Processes in Children, Monographs of the Society for Research in Child Development, 1963, 28, (2).

Kagan, J. Pearson, L., & Welch, L. Conceptual impulsivity and inductive reasoning. Child Development, 1966, 37, 583-594.

Karp, S. A., & Konstadt, N. L. Manual for the children's embedded figures test. Brooklyn, N. Y.: Cognitive Tests, 1963.

Maccoby, E. E., Dowley, E. M., Hagen, J. W., & Degerman, R. Activity level and intellectual functioning in normal preschool children. Child Development, 1965, 36, 761-770.

Stevens, J. H. Reflectivity and impulsivity in disadvantaged preschool children. Paper presented at the meeting of the Southeastern Psychological Association, Atlanta, April, 1967.

Ward, W. C. Reflection-impulsivity in kindergarten children. Child Development, 1968, 39, 737-754.

TABLE I

CORRELATIONS AMONG DEPENDENT VARIABLES FOR ADVANTAGED, DISADVANTAGED AND ALL Ss

	IQ		MFFT Latency		MFFT Errors		CEFT Latency		CEFT Errors		MIT		ROCT Contacts		ROCT Manipulations		ROCT $\bar{x}$ Latency	
	Disadv.	All Ss																
MFFT LATENCY	.319	** .523																
	Adv. * .547 *																	
MFFT ERRORS	* -.401	** -.528	* -.347	** -.477														
	* -.364		* -.436															
CEFT LATENCY	-.011	* .284	.309	** .433	-.263	** -.418												
	.139		.404		* -.383													
CEFT ERRORS	* -.407	** -.553	-.247	** .379	* .407	** ,561	** -.620	** -.425										
	** -.465		-.319		** .544		-.118											
MIT	.087	.182	.152	.124	-.180	-.138	.118	.231	-.192	-.165								
	.259		-.002		.012		* .370		-.048									
ROCT CONTACTS	.056	.096	-.008	.129	.120	.064	-.204	-.024	-.084	-.056	-.305	-.240						
	-.078		.223		.141		.087		.088		-.155							
ROCT MANIPULA-TIONS	.024	.041	-.079	-.079	-.080	.048	-.240	.079	.116	.185	-.249	-.149	** .688	** .481				
	* -.357		-.234		* .350		-.070		** .452		-.049		.150					
ROCT $\bar{x}$ LATENCY	.080	-.153	.080	-.027	.018	.073	.079	-.049	-.025	.017	.072	.011	** -.472	** -.426	* -.570	** -.488		
	.044		.123		-.331		-.049		** -.538		-.169		-.303		* -.383			
PAL ERRORS	** -.512	* .562	* -.420	** -.401	.344	** .451	-.042	-.155	.268	** .368	-.133	-.135	-.036	-.018	-.103	-.076	.085	.161
	-.151		-.134		* .357		.044		.218		.030		.232		.218		-.237	

Disadv.	All Ss
Adv.	

* p .05
** p .01