IQ Test Performance of Black Children Adopted by White Families

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ABSTRACT: *The poor performance of black children on IQ tests and in school has been hypothesized to arise from (a) genetic racial differences or (b) cultural/ environmental disadvantages. To separate genetic factors from rearing conditions, 130 black/interracial children adopted by advantaged white families were studied. The socially classified black adoptees, whose natural parents were educationally average, scored above the IQ and the school achievement mean of the* white *population. Biological children of the adoptive parents scored even higher. Genetic and environmental determinants of differences among the black/interracial adoptees were largely confounded. The high IQ scores of the socially classified black adoptees indicate malleability for IQ under rearing conditions that are relevant to the tests and the schools.*

It is well known that black children reared by their own families achieve IQ scores that average about a standard deviation (15 points) below whites (Jensen, 1973; Loehlin, Lindzey, & Spuhler, 1975). This finding is at the heart of a continuing controversy in the educational arena. Recent studies (Cleary, Humphreys, Kendrick, & Wesman, 1975) confirm the hypothesis that low IQ scores predict poor school performance, regardless of race. Thus, more black children than white children fail to achieve academically and to earn the credentials required by higher occupational status, with its

concomitant social prestige and economic security (Husén, 1974; Jencks, 1972).

In an attempt to remedy the alarming rate of school failure, compensatory educational programs, which were directed particularly at black children, were introduced in the 1960s. At the same time, but for different reasons, a more intensive intervention began: the adoption of black children by white families. Whereas compensatory educational programs involve the child for a few hours per day, transracial adoption alters the entire social ecology of the child. Parents, siblings, home, peers, school, neighborhood, and community—the child's rearing environment—are transformed by adoption.

The existence of transracial families offers much to the scientific study of social milieus and intellectual performance (Grow & Shapiro, 1974; Loehlin et al., 1975). Transracial adoption is the human analog of the cross-fostering design, commonly used in animal behavior genetics research (e.g., Manosevitz, Lindzey, & Thiessen, 1969). The study of transracial adoption can yield estimates of biological and sociocultural effects on the IQ test performance of cross-fostered children.

The results of a transracial or cross-fostering study require careful interpretation. Black children reared in white homes are socially labeled as black and therefore may suffer racial discrimination. Because of the unmeasured effects of racism, poor IQ test performance by black children in white homes cannot be uncritically interpreted as a result of genetic limitations. In addition, equal performance by black and other adoptees cannot be interpreted as an indication of the *same* range of reaction for all groups. Again, the unknown effects of racism may inhibit the intellectual development of the black adoptees. However, equally high IQs for black and other adoptees would imply that IQ performance is considerably malleable.

Upper-middle-class white families have an excellent reputation for rearing children who perform

well on IQ tests and in school. When such families adopt white children, the adoptees have been found to score above average on IQ tests, but not as highly as the biological offspring of the same and similar families (Burks, 1928; Freeman, Holzinger, & Mitchell, 1928; Leahy, 1935; Munsinger, 1975b; Skodak & Skeels, 1949). How do the IQ test scores of black children adopted by white families compare to the scores of both white adoptees and the biological children of these parents?

If black children have genetically limited intellectual potential, as some have claimed (Jensen, 1973; Shockley, 1971, 1972), their IQ performance will fall below that of other children reared in white upper-middle-class homes. On the other hand, if black children have a range of reaction similar to other adoptees, their IQ scores should have a similar distribution. The concept, range of reaction, refers to the fact that genotypes do not usually specify a single phenotype. Rather, genotypes specify a range of phenotypic responses that the organism can make to a variety of environmental conditions.

This is an investigation of the IQ test performance of black and interracial black children adopted by white families in Minnesota. The present study is part of a larger investigation of the psychosocial functioning of transracial adoptive families. Intellectual, personality, and attitudinal tests were administered to the parents and all children over the age of 4 years. Extensive interviews were conducted with the parents, and ratings of the home environment were made.

Minnesota has been in the forefront of interracial adoption. Although the black population of the state is small (.9% in 1970), there were too many black and interracial children available for adoption and too few black families to absorb them. Minority group children—black, American Indian, Korean, and Vietnamese—have consequently been adopted by white families in large numbers. Furthermore, in recent years, many nonwhite children have been adopted from other states.

The climate for interracial adoption changed dramatically in the late 1950s and early 1960s because of the efforts of public and private agencies and the pioneering white adoptive parents. Several agency and parent organizations were formed to promote the adoption of black and interracial black children. The most influential, continuing organization is the Open Door Society of Minnesota, formed in 1966 by adoptive parents of socially classified black children. The founding president of the Open Door Society is a leading columnist on one of the Minneapolis daily newspapers who frequently writes about his multiracial family. The intellectual and social climate of Minnesota is generally conducive to liberal and humanitarian movements such as interracial adoption.

Goals of the Study

We posed five major questions in the study:

1. What is the estimated reaction range for IQ scores of black/interracial children reared in typical black environments or in white adoptive homes?

2. Do interracial children (with one black and one white parent) perform at higher levels on IQ tests than do children with two black parents; that is, does the degree of white ancestry affect IQ scores?

3. How do the IQ scores of socially classified black children reared in white homes compare to those of other adopted children and biological white children within the same families; that is, do different racial groups, when exposed to similar environments, have similar distributions of IQ scores?

4. How well do socially classified black children reared in white families perform in school?

5. How accurately can we predict the IQ test performance of adopted children from the educational characteristics of their natural parents, from the educational, intellectual, and other characteristics of their adoptive homes, and from their placement histories?

The Families

The 101 participating families were recruited through the Newsletter of the Open Door Society and by letters from the State Department of Public Welfare Adoption Unit to families with black adopted children, 4 years of age and older, who were adopted throughout the state of Minnesota through Lutheran Social Service and Children's Home Society. These agencies have placed the majority of black and interracial children in the state. We were unable to ascertain how many transracial adoptive families learned about the study from the Newsletter, because the mailing list of about 300 includes agencies, social workers, and interested citizens. In addition, we do not know how many of these families were also contacted by the State Department of Public Welfare. The sup-

TABLE 1

Recruitment of Families

Method	n
Department of Public Welfare letters	
Not eligible to participate	46[a]
Unknown	
Letter undelivered	43
No response	41
Eligible	
Not participating	
In another study	3
Don't approve of study	2
Child appears white	3
Personal reasons	3
No reason given	3
Live too far away	10
Yes, but changed their minds	6
Participating	68
Total letters sent	228
Open Door Society	
Not eligible to participate	19[a]
Eligible	
Not participating	
Live too far away	4
Yes, but changed their minds	1
Participating	33
Total responses	57

[a] Most because their black children were under 4 years of age.

port of the Open Door Society was important, however, in affirming the legitimacy of the study.

The State Department of Public Welfare mailed 228 letters to transracial adoptive families. In some cases a family received more than one letter if they had adopted more than one child. Table 1 describes the results of the mailing. Of the 136 families known to be eligible for participation in the study, 74% did participate.

The 101 participating families included 321 children 4 years of age and older: 145 biological children (81 males, 64 females) and 176 adopted children (101 males, 75 females), of whom 130 are socially classified as black and 25 as white. The remaining 21 included Asian, North American Indian, and Latin American Indian children.

All of the adopted children were unrelated to the adoptive parents. Adopted children reared in the same home were unrelated, with the exception of four sibling pairs and one triad adopted by the same families.

The sample of families live within a 150-mile radius of the Twin Cities (Minneapolis–St. Paul) metropolitan area. Although nearly all of the chil-

dren were adopted in Minnesota, 68 were born outside of the state. Through interstate cooperation, the child placement agencies arranged for the adoption of many nonwhite children from other states. Table 2 gives the out-of-state origins of the sample.

Procedures

Most of the information was obtained directly from members of the adoptive families. Some additional data on the natural parents and the children's preadoption history were obtained by State Department of Public Welfare personnel from the adoption records. Achievement and aptitude test scores were supplied by school districts for all of the school-aged children to whom such tests had been administered.

THE IQ ASSESSMENT

Both parents and all children in the family over 4 years of age were administered an age-appropriate IQ test as part of an extensive battery of intellectual, personality, attitudinal, and demographic measures. Children under 4 years of age were excluded because IQ tests are less predictive of later IQ at younger ages. By 4, the correlation of IQ with adolescent scores is about .7. The tests were administered in the family home during two visits by a team of trained testers. The examiners were all graduate students who had completed at least a year-long course in psychoeducational assessment and who had participated in a training session on assessment for this study. Among the 21 examiners were 6 males and 15 females, including 2 blacks. Testers were assigned randomly to members of the family.

TABLE 2

Out-of-State Origins of the Adopted Children

Origin	n
Other adopted	
Korea	7
Vietnam	1
Canada (Indian)	5
Ecuador (Indian)	2
Black and interracial adopted	
Illinois	4
Iowa	1
Kentucky	9
Massachusetts	11
New York	3
North Dakota	1
Ohio	2
Texas	2
Utah	1
Washington	2
Wisconsin	16
White adopted	
Massachusetts	1
Total	68

Both parents and all children 16 years of age and older were administered the Wechsler Adult Intelligence Scale (WAIS; Wechsler, 1955). Children between 8 and 15 were given the Wechsler Intelligence Scale for Children (WISC; Wechsler, 1949), and children between 4 and 7 were administered the Stanford-Binet Intelligence Scale, Form L-M (Terman & Merrill, 1972).

All scoring of protocols and computations of IQ scores were done by a graduate student with extensive experience in administering and scoring IQ measures. This student had no contact with the families and with the examiners except to clarify questionable responses. In no case was the scorer aware of the child's race or adoptive status.

THE ADOPTION RECORDS

The Director of the Adoption Unit, State Department of Public Welfare, abstracted the following information from the records of the adopted children and their families:

1. The child: (a) birthdate; (b) number and dates of preadoption placements, unless the child was in the adoptive home at 2 months of age; (c) evaluation of the quality of preadoption placements, rated by the authors on a scale of 1 = poor to 3 = good; 4 = placement only in the adoptive home; (d) date of placement in adoptive home.

2. The natural parents: (a) age at birth of child; (b) educational level at birth of child as an estimate of intellectual functioning, since IQ scores were not available; (c) occupation of mother; (d) race.

The race of the two natural parents was used to classify their child's race. If a child had one or two black parents, he was considered socially black.

FAMILY DEMOGRAPHICS

As part of the interview portion of the testing session, each parent was asked his or her birthdate, last school grade completed, occupation and whether it was full time or part time, range of income, and date of marriage. Occupations were coded for prestige using the scale developed from the National Opinion Research Center (NORC) survey (Reiss, 1961).

THE SCHOOL DATA

With parental consent, forms requesting recent aptitude and achievement test scores were mailed to the schools of all school-aged children participating in the study; 100% of the forms were returned. Because school districts use a variety of tests,[1] comparable scores were combined across tests. For aptitude tests, a total score was generated. For achievement tests, a vocabulary, a composite reading, and an arithmetic score were used.

Results

Since the major focus of the study was to estimate the level of IQ performance of the black adoptees and to account for that performance level, the

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[1] Eight aptitude and 11 achievement tests were used by the various school districts. A list is available from the authors (see author note for address).

nature and quality of the children's adoptive experience were examined.

FAMILY CHARACTERISTICS

The adoptive families who participated in the study can be characterized as highly educated and above average in occupational status and income. Table 3 is a summary of selected demographic characteristics of the adoptive and natural parents.

The educational level of the adoptive parents exceeded that of the adopted children's natural parents by 4–5 years. The typical occupations of the adoptive fathers were clergyman, engineer, and teacher. Nearly half (46.5%) of the adoptive mothers were employed at least part time, typically as teachers, nurses, and secretaries. The mean educational level of the natural parents was high school graduation, which is close to the median for that age cohort of the general population. Actually, the black mothers had one year less education than the black females in their age group (25–44). Fathers of the early-adopted black children had slightly more. Table 4 shows the average educational level of the white mothers of interracial black children, the black mothers, and the black fathers, compared to local and regional norms. (Because there were only two white fathers of interracial children, they have been omitted from the table.) In contrast, the mean educational level of the adoptive parents was atypically high. Typical

TABLE 4

Educational Levels of the Natural Parents of Adopted Children, Compared to Their Populations

	Natural parents of the adopted children	Natural parents of the early-adopted children	North Central region	Minneapolis–St. Paul[a]
Black mothers	10.8	10.8	11.9	12.0
White mothers of interracial children	12.4	12.6	12.5	12.5
Black fathers	12.3	12.6	12.0	12.0

Note. Levels given in years.
[a] Men or women, aged 25–44 years.

occupations of the natural mothers were office workers, nurse's aides, and students. Insufficient information was available on the occupations of the natural fathers.

PREADOPTIVE EXPERIENCE

Table 5 includes two measures of the children's preadoptive placements: number and quality. The information is presented for all adoptees and by race.

TABLE 5

The Adopted Children

	All adopted (n = 176)	White (n = 25)	Black/inter-racial (n = 130)	Asian/Indian (n = 21)
Preadoption				
Number of placements[a]				
M	1.06	.77	1.02	1.57
SD	1.04	1.24	.93	1.12
Range	0–6	0–4	0–6	0–4
Quality of placements[a,b]				
M	3.17	3.46	3.18	2.50
SD	.63	.84	.50	.73
Range	1–4	1–4	2–4	1–4
Adoptive placement				
Age of placement[c]				
M	22.48	19.04	17.97	60.71
SD	34.20	32.80	24.70	56.90
Range	0–189	0–94	0–124	1–189
Time in adoptive home[c]				
M	64.70	104.20	57.25	63.81
SD	33.50	39.30	25.50	38.20
Range	8–199	22–187	8–199	9–137
Current age[c]				
M	87.18	123.24	74.22	124.52
SD	40.80	48.00	29.60	44.40
Range	48–257	69–257	48–201	52–218

[a] Information available for 156 children: 22 white; 120 black/interracial; 14 Asian/Indian.
[b] Quality of placement was rated: 1 = poor to 3 = good; 4 = placed when less than 2 months old.
[c] In months.

Forty-four children were placed in their adoptive homes by 2 months of age and were considered to have had no previous placements. The remaining adopted children had from one to six previous placements. Black children had a smaller number of preadoption placements, and the quality of their placements was better than that of the Asian/Indian adoptees. Fewer black children were in institutions or were removed from homes for neglect or abuse, and more were in agency foster homes.

Only 18 of the 176 adopted children had ever lived with their biological parents: 7 of the Asian/Indian adoptees, for an average of 85 months; 3 of the white children, for an average of 28 months; and 8 of the black children, for an average of 36 months.

THE ADOPTIVE EXPERIENCE

As shown in Table 5, the average age of placement in the adoptive homes was 22 months, but the median age of placement was 6 months. One hundred and eleven children, including 99 black and interracial adoptees, were placed in their adoptive homes during the first year of life. The Asian and Indian children were placed significantly later than either white or black children. The socially classified black children, however, had lived with their adoptive families for fewer years than the others, particularly than the white adoptees. Also shown in Table 5, black and interracial children were currently younger, on the average, than the others.

IQ SCORES OF ADOPTIVE PARENTS

As indicated in Table 6, the mean WAIS IQ scores of the adoptive parents were in the high average to superior range of intellectual functioning. The distribution of scores extends from the low average to the very superior, with considerable restriction of range. The scores were congruent with the very high educational level of the group.

TABLE 6

WAIS IQ Scores of Adoptive Parents

WAIS	Mother				Father			
	n	M	SD	Range	n	M	SD	Range
Verbal	100	118.3	10.4	92–144	99	120.7	10.6	92–140
Performance	99	115.9	11.4	86–143	99	118.2	10.9	91–149
Full Scale	99	118.2	10.1	96–143	99	120.8	10.0	93–140

TABLE 7

IQ Scores of the Natural Children of the Adoptive Parents

Scale	Total				Males				Females			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range	*n*	*M*	*SD*	Range
Stanford-Binet	48	113.8	16.7	81–148	26	111.6	16.5	81–148	22	116.3	16.9	88–140
WISC												
Verbal	82	113.5	13.1	84–147	50	114.0	12.8	89–147	32	112.8	13.6	84–144
Performance	82	119.5	14.9	68–147	50	120.5	12.5	82–143	32	117.8	18.1	68–147
Full Scale	82	117.9	12.7	87–150	50	118.5	10.8	96–145	32	117.0	15.3	87–150
WAIS												
Verbal	14	117.5	11.0	100–139	5	121.6	13.9	103–139	9	115.2	9.2	100–125
Performance	14	117.7	10.8	103–137	5	121.8	14.6	104–137	9	115.4	8.1	103–125
Full Scale	14	118.9	11.2	101–141	5	123.0	14.9	104–141	9	116.6	8.6	101–126

Note. WISC = Wechsler Intelligence Scale for Children. WAIS = Wechsler Adult Intelligence Scale.

IQ SCORES OF THE NATURAL CHILDREN OF THE ADOPTIVE PARENTS

The mean IQ scores of the natural children of the adoptive families were in the high average to superior range of intellectual functioning. As expected from polygenic theory, when both parents have high IQ scores, there is less regression toward the population mean than under conditions of random mating. Table 7 gives the Stanford-Binet, WISC, and WAIS results for the natural children. Only the Wechsler scores had a restricted range. With tests combined, the total IQ score of the natural children averaged 116.7 with a standard deviation of 14.0.

THE IQ SCORES OF ADOPTED CHILDREN

The mean IQ scores of the adopted children were in the average range. As shown in Table 8, the scores on the three IQ tests, although for children at different age levels, were highly comparable. The adopted children did not perform as well as either the adoptive parents or their biological children.

For all of the groups of children, the Stanford-Binet (1972 norms) yielded a slightly lower mean score than did the WISC or WAIS. Had the 1960 Stanford-Binet norms been used, the average IQ scores of the children would have been 7 points higher.

IQ SCORES OF ADOPTED CHILDREN BY RACE

Although adopted children of various ages were administered different tests, their performance was sufficiently comparable that we could combine the IQ scores across the three tests. Table 9 gives the mean IQ scores by race.

Although all groups had comparable ranges and were performing within the average range of intellectual functioning, the black and interracial children scored, on the average, between the white and Asian/Indian adopted groups. The scores of the socially classified black and white groups were significantly above the mean of the general popula-

TABLE 8

IQ Scores of Adopted Children

Scale	Total				Males				Females			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range	*n*	*M*	*SD*	Range
Stanford-Binet	122	106.5	13.9	68–144	69	107.1	12.6	80–144	53	105.6	15.5	68–136
WISC												
Verbal	48	101.2	15.6	66–142	30	101.9	14.4	71–139	18	100.2	17.9	66–142
Performance	48	109.7	17.7	62–143	30	111.0	18.3	62–143	18	107.5	17.0	80–142
Full Scale	48	105.8	16.1	64–140	30	106.9	15.8	64–140	18	104.1	16.8	80–133
WAIS												
Verbal	6	98.3	7.0	86–107	3	95.3	8.7	86–107	3	101.3	2.1	99–103
Performance	6	113.5	6.5	107–119	3	113.0	4.9	107–119	3	114.0	9.5	108–125
Full Scale	6	105.2	6.3	94–113	3	102.7	7.8	94–113	3	107.7	2.9	106–111

Note. WISC = Wechsler Intelligence Scale for Children. WAIS = Wechsler Adult Intelligence Scale.

TABLE 9

IQ Scores for Adopted Children by Race, with Tests Combined

Children	IQ scores			
	n	*M*	*SD*	Range
All adopted				
Black and interracial	130	106.3	13.9	68–144
White	25	111.5	16.1	62–143
Asian/Indian	21	99.9	13.3	66–129
Early-adopted				
Black and interracial	99	110.4	11.2	86–136
White	9	116.8	13.4	99–138
Asian/Indian[a]				

[a] Only 3 cases.

tion. The Asian/Indian adopted children scored exactly at the population mean. The means of the three groups of adopted children differ significantly ($p < .005$). The children adopted during the first year of life scored higher than those adopted after the first year. The average score for the 111 early-adopted group was an IQ of 111; for the 65 later adoptees, the mean IQ score was 97.5.

For those who hypothesize that blacks have lower IQ scores than whites because of their African ancestry, we compared socially classified black children with one versus two black natural parents. On the average, children with two black parents have a higher degree of African ancestry than those with one black and one white parent. Table 10 compares the IQ scores, placement histories, and natural-parent education of children with one or two black parents. Socially classified black children with one parent of unknown, Asian, Indian,

or other racial background have been eliminated from this analysis.

The 29 children with two black parents achieved a mean IQ score of 96.8. The 68 with only one black parent scored on the average 109.0. It is essential to note, however, that the groups also differed significantly ($p < .05$) in their placement histories and natural mother's education. Children with two black parents were significantly older at adoption, had been in the adoptive home a shorter time, and had experienced a greater number of preadoption placements. The natural parents of the black/black group also averaged a year less of education than those of the black/white group, which suggests an average difference between the groups in intellectual ability. There were also significant differences between the adoptive families of black/black and black/white children in father's education and mother's IQ. One can see in Table 10 that the children with two black parents had poorer histories and had natural and adoptive parents with lower educational levels and abilities. It will be shown in the section on IQ variance that these characteristics largely account for the IQ differences between black children with one or two black parents.

EXPECTANCY EFFECT

It is possible, though not likely, that the adoptive parents' belief about the child's racial background could influence the child's intellectual development. If parents expected interracial children to score higher than children with two black parents, there could be an expectancy effect. Twelve interracial

TABLE 10

Comparison of Adopted Children with One or Two Black Natural Parents

Variable	Black/black				Black/white[a]			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
IQ	29	96.8	12.8	80–130	68	109.0	11.5	86–136
Age at adoption[b]	29	32.3	33.1	1–124	68	8.9	11.2	0–52
Time in home[b]	29	42.2	14.3	8–120	68	60.6	17.4	33–199
Quality of placement	27	2.9	.4	2–4	64	3.3	.5	3–4
Number of placements	27	1.2	.7	0–3	64	.8	.9	0–6
Natural mother's education	22	10.9	1.9	6–14	66	12.4	1.8	7–18
Natural father's education	15	12.1	1.4	10–16	20	12.5	2.2	8–17
Adoptive father's education	29	16.5	2.7	12–21	68	17.2	2.8	12–21
Adoptive mother's education	29	14.9	2.3	12–20	68	15.3	2.0	11–20
Adoptive father's IQ	29	119.5	10.3	106–137	66	121.4	10.1	93–140
Adoptive mother's IQ	28	116.4	7.5	100–129	68	119.2	10.5	96–143

[a] 66 black fathers, 2 black mothers.
[b] In months.

children were believed by their adoptive parents to be black/black. Only two black/black children were believed to be interracial, and they have been omitted from the analysis.

Interracial children believed to be the offspring of two black parents scored on the average at the same level as interracial children correctly classified by their adoptive parents. The mean IQ score of 43 correctly identified interracial children was 108.4 ($SD = 12.6$). The average IQ score of 12 interracial children believed to be black/black was 108.6 ($SD = 10.2$). There was no evidence for an expectancy effect.

THE CRITICISM OF SELF-SELECTION

Self-selection has been used to criticize the above-average IQ scores obtained in other adoption studies. Munsinger (1975a) noted that obviously retarded and damaged infants are not likely to be adopted, a fact which raises the mean IQ of adoptees above the population average. This bias is slight, however: If all infants with eventual IQ scores of less than 60 (at most 3% of children) were eliminated from the adoption pool, the mean IQ of adoptees would be raised by only 1 IQ point.

Another bias could be the self-selection of families whose children appear normal in intelligence and school work. The range of IQ scores in this study contraindicates a strong bias in this regard, because 15 of the 176 adopted children have IQ scores of 85 and below. Furthermore, since 74% of those families known to be eligible did participate and the average IQ of all adoptees was 106, the average IQ of children in the 26% of the families who did not participate would have to be unreasonably low to explain mean results. If we consider the sample to be composed entirely of interracial children, with white adoptees offsetting those with two black parents, their average IQ should fall between those of black and white children in the region.

To lower the average adoptee's IQ to a hypothetical average of 95 for interracial children, the nonparticipants would have to have IQ scores that average 64, or in the retarded range. This is highly unlikely for any sample of adopted children.

SCHOOL ACHIEVEMENT

The IQ assessments of the present study should bear a meaningful relationship to school achievement. Slightly above average IQ test performance

TABLE 11

School Achievement Test Scores of Black/Interracial Adopted and Natural Children: Mean National Percentiles

Test	M %ile	SD	n
Black adoptees			
Vocabulary	57.2	29.1	20
Reading	55.0	28.6	24
Mathematics	55.2	29.9	19
Aptitude (IQ)	108.8	5.9	5
Natural children			
Vocabulary	73.1	11.7	48
Reading	74.5	25.8	77
Mathematics	71.3	22.6	69
Aptitude (IQ)	119.6	11.7	39

should predict to slightly above average school achievement. The school data are also important because they come from many different school districts and are uncontaminated by any biases that may have inadvertently influenced testing in our study. Most importantly, they represent a "real-life" criterion of intellectual achievement.

Table 11 gives the mean national percentile scores for vocabulary, reading, and mathematics achievement, and a total aptitude score expressed in IQ form, for the socially classified black adopted and natural children of the adoptive families. Although the sample sizes were rather small, the black children in school were performing slightly above the national norms on standard scholastic achievement tests, just as their IQ scores would predict. The average IQ of the children with achievement test scores was 104.9. The mean aptitude scores of the 5 black adoptees who had been given school-administered group IQ tests were quite close to their average scores on the WISC and Stanford-Binet. The correlation between aptitude and individual IQ scores could not be calculated because of small sample size.

The natural children of the adoptive parents scored higher than the adopted children on scholastic achievement tests, as predicted by their individual IQ test scores. Furthermore, their group-tested IQ performance was also very close to their average IQ as assessed in this study with individual tests. The correlation between the individual and group test scores of the 39 natural children was .78 ($p < .001$).

TABLE 12

Correlations of Natural Parent Characteristics, Child's Adoptive Experience, Adoptive Family Characteristics, and Child's IQ Scores for Black/Interracial Children

	1	2	3	4	5	6	7	8	9	10	11	12	13
Natural parent characteristics													
1. Natural mother's race (117)													
2. Natural mother's education (107)[a]	−.36												
3. Natural father's education (37)	−.19	.27											
Adoptive experience													
4. Age at placement (130)	.36	−.34	−.27										
5. Time in home (130)	−.45	.27	.37	−.31									
6. Number of placements (112)	.22	−.17	−.31	.50	−.21								
7. Quality of placements (112)	−.30	.26	.17	−.37	.15	−.65							
Adoptive family characteristics													
8. Adoptive mother's education (130)	−.10	.22	.12	−.10	.12	−.13	.02						
9. Adoptive father's education (130)	−.13	.26	.25	−.27	.26	−.14	.04	.56					
10. Adoptive father's occupation (129)	.01	.07	.04	.00	.09	.01	−.05	.31	.29				
11. Family income (129)	.08	.16	−.06	.16	.12	−.04	−.06	.31	.04	.45			
12. Adoptive father's IQ (127)	−.01	.12	.33	−.19	.06	−.33	.08	.26	.47	.18	−.07		
13. Adoptive mother's IQ (128)	−.18	.09	.29	−.01	.26	−.05	−.05	.53	.30	.21	.27	.21	
Child's IQ													
14. Black adoptees (130)	−.41	.31	.45	−.36	.30	−.36	.38	.22	.34	−.01	−.00	.18	.17

Note. Total N = 130. Numbers in parentheses are *n*s.
[a] Students included.

Sources of Variance in Black Adoptees' IQ Scores

The possible effects of the adoptive experience and of natural and adoptive family variables on IQ scores were explored in correlational and regression analyses. To account both for the differences between black/black and black/white children and for the above-average performance of the black adopted children on the IQ tests, we intercorrelated their natural parents' education, natural mother's race, their adoptive experience, adoptive family characteristics, and IQ scores. We were particularly concerned about the confounding of racial variables with preadoptive and adoptive family variables that could affect the children's IQ performance. Selective placement of the children of better educated (presumably brighter) natural mothers with better educated adoptive families—a situation that creates genotype–environment correlations—also needed to be examined. The correlation matrix is presented in Table 12.[2]

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[2] The age of the child and the race and sex of the examiner are omitted from the tables because they are uncorrelated with the children's IQ scores (*r*s = .01, .06, and .01, respectively).

NATURAL PARENTS AND THE CHILD'S ADOPTIVE EXPERIENCE

The educational and racial characteristics of the natural mothers of the adopted children had a great deal to do with when and by whom the children were adopted. Less well educated mothers, who were more often black, had children who were placed later for adoption, had spent less time in the adoptive homes, and were adopted by families with lower educational and income levels. The same pattern held for natural fathers' education. (Since all but two of the known natural fathers were black, father's race was omitted from the analysis.)

The black children's IQ scores were significantly correlated with the same placement and adoptive family variables. Children who were adopted

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In the correlation and regression analyses (Tables 12–14), natural mothers who were students at the time of the child's birth were included. Of the 107 mothers of black children for whom we had educational data, 34 were students in high school or college. Since the mean educational level of the natural mothers, with and without the students, was the same and since the correlation of natural mother's education and child's IQ was higher when students were included, we decided to present the tables based on the larger *n*s.

TABLE 13

Two-Step Multiple Regression of Biological and Adoptive Family Variables on the IQ Scores of Black/Interracial Children, Adoptive Variables First

Step	Multiple R	R^2	R^2 change	Simple r	$p <$
1. Social variables					
Adoptive mother's education	.22	.05	.05	.22	.001
Quality of placements	.44	.19	.14	.38	
Adoptive father's IQ	.45	.20	.01	.18	
Adoptive father's occupation	.46	.21	.00	−.01	
Family income	.46	.21	.00	−.00	
Adoptive mother's IQ	.46	.21	.01	.17	
Age at placement	.53	.28	.07	−.36	
Adoptive father's education	.56	.31	.03	.34	
Number of placements	.56	.31	.00	−.36	
Time in home	.56	.31	.00	.30	
2. Biological variables					
Natural mother's education[a]	.57	.32	.01	.31	.001
Natural mother's race	.59	.35	.03	−.41	

[a] Students included; natural mother's education entered first to leave residual variance for race.

earlier, who had spent more years in the adoptive homes, who had fewer preadoptive placements, and who had better quality placements had higher IQ scores. In addition, adopted black and interracial children who had better educated and higher-IQ adoptive parents had higher IQs. Thus, there was an important confounding of the characteristics of the natural parents, the preadoption experience, and the adoptive family, all of which affected the level of the black/interracial children's intellectual functioning.

SELECTIVE PLACEMENT

Selective placement further confuses the sources of variance in the black children's intellectual functioning. As Table 12 indicates, the natural mother's educational level is correlated with the adoptive parents' educational level, between .22 and .26, suggesting that the adoption agencies practiced selective placement, based on the educational information they had available. The correlations of natural mother's education and adoptive parents' IQ scores are not as high (.09 and .12), presumably because the agencies did not have the IQ data available. Selective placement increases the similarity between natural parents and their (adopted) children and between the adoptive family and their adopted children.

The biological and social factors, many of which separately and together can affect IQ scores, were largely confounded in the sample of black and interracial adoptees. Therefore, we did not attempt

to estimate point values for the genetic and environmental contributions to IQ differences. Instead, we decided to present two regression analyses.

When the *biological* variables were put into the regression first, we could find out how much of the remaining variance would be accounted for by the social variables. When the *social* variables were put into the regression equation first, we could determine how much of the remaining variance would be determined by the biological variables. Tables 13 and 14 present the two regression analyses (see Footnote 2).

In Table 13, the social variables, including placement and adoptive family measures, were stepped in first. The natural family data, called biological variables, were entered second into the regression equation. In Table 14, the biological variables were entered first, the social variables second. Both steps were statistically significant in both tables.

When the social variables were entered first, they accounted for 31% of the total variance in the IQ scores of socially classified black adopted children. The biological variables added 4% of the variance without natural father's education and 11% with father's education. (Because the sample of black children with natural father information was small, $n = 37$, a separate regression including only those children was done. The results for the other variables were very similar, and father's education accounted for an additional 7% of the total IQ variance.)

When the biological variables were entered into the regression analysis first, natural mother's edu-

TABLE 14

*Two-Step Multiple Regression of Biological and Adoptive Family Variables on the IQ Scores of
Black/Interracial Children, Biological Variables First*

Step	Multiple R	R²	R² change	Simple r	p <
1. Biological variables					
Natural mother's education[a]	.31	.09	.09	.31	.001
Natural mother's race	.44	.20	.10	−.41	
2. Social variables					
Adoptive father's occupation	.44	.20	.00	−.01	.001
Adoptive father's IQ	.47	.22	.03	.18	
Adoptive mother's IQ	.48	.23	.01	.17	
Quality of placements	.54	.29	.06	.38	
Adoptive father's education	.58	.34	.05	.34	
Family income	.58	.34	.00	−.00	
Adoptive mother's education	.58	.34	.00	.22	
Number of placements	.59	.35	.01	−.36	
Age at placement	.59	.35	.00	−.36	
Time in home	.59	.35	.00	.30	

[a] Students included; natural mother's education entered first to leave residual variance for race.

cation and race accounted for 20% of the variance in the black children's IQ scores. (Natural father's education added 11%, but the sample size was too small to include in the full analysis.) The social variables, stepped in second, added 15% of the IQ variance.

It is impossible to distinguish the effects of the separate social and biological variables, because 24.5 of the 35% of the variance accounted for was shared by the so-called biological and social variables. Using part correlations, we found that natural mother's race and adopted father's education each contributed 3% to the variance of the socially classified black adoptee's IQ scores, and the quality of the children's preadoptive placements contributed 2%. The remaining 1.4% of the unique variance was contributed almost equally by the other "biological" and "social" variables.

In the case of natural mother's race, it is unwarranted to conclude that race stands solely for genetic differences between the races. In this sample, natural mother's race was correlated with many measured social variables; it is conceivably correlated with other *unmeasured* social variables. Race does make a small contribution to the socially classified black children's IQ variance, independent of the other measures, but not necessarily independent of other environmental variables.

Another consideration in the interpretation of the regression analyses is the restricted range of variation in adoptive family characteristics. Parental education, IQ scores, income, occupational status, and other unmeasured family variables, such

as child-rearing practices, varied over half or less of their normal range in the general population. Thus, the adoptive family variables accounted for less of the IQ variance among black and interracial adoptees than they would in a more varied adoptive population. The importance of the social variables is very likely to be underestimated.

Discussion

This study attempted to answer five questions about the impact of transracial adoption on the IQ performance of black and interracial children adopted into white homes. The first question focused on the reaction range of IQ scores within the black population. Would socially classified black children reared in economically advantaged white homes score above those reared in black environments?

The average IQ score of black and interracial children, adopted by advantaged white families, was found to be 106. Early-adopted black and interracial children performed at an even higher level. This mean represents an increase of 1 standard deviation above the average IQ of 90 usually achieved by black children reared in their own homes in the North Central region (Kaufman & Doppelt, in press). Furthermore, in the Minneapolis public school district, the average performance of 4th-grade children on the Gates–MacGinitee vocabulary test at a school with 87% black and interracial enrollment in 1973 was about the 21st

national percentile, which translates to an IQ equivalent of about 90.

Since 68 of the 130 black children were known to have one white parent and only 29 were known to have had two black parents (the remainder were of other mixed or unknown parentage), it may seem misleading to compare the adoptees to black children in the general population. Even if all of the black children were interracial offspring, however, a strong genetic hypothesis should not predict that they would score well above the white population average. Nor should they score as highly as white adoptees. In fact, the black and interracial children of this sample scored as highly on IQ tests as did white adoptees in previous studies with large samples (Burks, 1928; Leahy, 1935).

In other words, the range of reaction of socially classified black children's IQ scores from average (black) to advantaged (white) environments is at least 1 standard deviation. Conservatively, if we consider only the adopted children with two black parents (and late and less favorable adoptive experiences), the IQ reaction range is at least 10 points between these environments. If we consider the early-adopted group, the IQ range may be as large as 20 points. The level of school achievements among the black and interracial adoptees is further evidence of their above-average performance on standard intellectual measures.

The dramatic increase in the IQ mean and the additional finding that placement and adoptive family characteristics account for a major portion of the IQ differences among the socially classified black children strongly suggest that the IQ scores of these children are environmentally malleable.

One reason for the substantial increase in test performance of the black and interracial adoptees is that their rearing environments are culturally relevant to the tests and to the school. Amid the IQ controversy, some have argued that standardized measures are inappropriate for children whose cultural background is different from that of the tests. While the rejection of IQ tests as predictors of academic success, on the basis of their cultural bias, is untenable (Jensen, 1974), we believe that the tests and the schools share a common culture to which black children are not as fully acculturated as are white children. However, the socially classified black children in this study have been fully exposed to the culture of the tests and the school, although they are still socially defined as black.

IQ COMPARISONS WITHIN THE BLACK GROUP

The second question concerned a comparison of the IQ scores of children whose parents were both black with black children of interracial parentage. The interracial children scored about 12 points higher than those with two black parents, but this difference was associated with large differences in maternal education and preplacement history. The part correlations suggested that variation in the race of mothers accounted for 3% of the children's IQ variance, but even this percentage of variance probably includes some additional and unmeasured environmental differences between the groups.

For example, black mothers are known to be at greater risk than white mothers for nutritional deficiencies, maternal death, infant mortality, and other reproductive casualties (Scarr-Salapatek & Williams, 1973). The prematurity rate among black mothers is more than double that of whites. These antenatal risks are often found to be associated with long-term developmental problems among the children. The interracial children, all but two of whom have white mothers, were less likely to have suffered any of these problems.

COMPARISONS OF BLACK/INTERRACIAL,
ASIAN/INDIAN, AND NATURAL CHILDREN
OF THE ADOPTIVE FAMILIES

The third question asked for comparisons among the IQ scores of black/interracial, Asian/Indian adoptees, and the biological children of the adoptive families. There were significant differences in IQ scores among the groups. The socially classified black children scored on the average between the white and Asian/Indian adoptees, but these results were confounded with placement variables. Among the early adoptees, there were too few white and Asian/Indian children to make meaningful comparisons. The black/interracial early adoptees, however, performed at IQ 110, on the average.

Compared to adopted children in previous studies, the average IQ of 110 for the 99 early-adopted black/interracial children compares well with the 112.6 reported by Leahy (1935, p. 285) for white adoptees in professional families.

The above-average IQ level of adopted children, reported in all adoption studies, reflects both their better-than-average environments and the elimination of severely retarded children from the pool of potential adoptees. Although Munsinger's (1975a) review concluded that adoptive family environ-

ments have little or no impact on the intellectual development of adoptees, past studies have not adequately tested this hypothesis. Because children who are selected for adoption are not grossly defective, their predicted IQ level is slightly above that of the general population. In this study, however, the adopted *black/interracial* children could not have been predicted to have average IQ scores above the mean of the *white* population unless adoptive family environments have considerable impact.

The biological children of the adoptive families scored above the average of the black/interracial early adoptees. Not only have the biological children been in their families since birth, but their natural parents are considerably brighter than those of the adopted children, regardless of race.

SCHOOL ACHIEVEMENT

A fourth question focused on the school achievement of the black/interracial adoptees and the biological children in the adoptive families. Black/interracial adoptees were found to score slightly above average on school-administered achievement and aptitude tests, as predicted by their IQ scores. The natural children of the adoptive families scored higher than the socially classified black adoptees on school achievement measures, a finding which is congruent with their higher IQ scores. The school achievement data provided validation for our IQ assessment.

GENETIC AND ENVIRONMENTAL SOURCES OF IQ VARIANCE

The final question posed by the study dealt with the relative contributions of biological and social environmental measures to IQ differences among the socially classified black children. The placement variables, adoptive family characteristics, and genetic background all contributed to the IQ differences among the black/interracial adoptees. Because the social and biological variables were confounded, it is very difficult to make a clear comparison. Although this study has an unusual sample of children, we propose that genetic and social variables are usually confounded in families. Indeed, we suspect that genotype–environment correlations are the rule and that they account for a sizable portion of the IQ variance in the general population.

In making any comparison between biological

and social variables, we must be concerned about the quality of those measures. Although the adoptive family variables are only indices of the qualities of the environment that have an impact on children, the natural parent data are even more limited. It would have been advantageous to have comparable IQ scores for the natural parents, rather than educational levels, although the latter correlate about .7 with IQ in the general population (Jencks, 1972).

Because the social variables accounted for a substantial portion of the IQ variance among black/interracial adoptees, it is likely that IQ performance is malleable within the range of existing environments. If all black chilren had environments such as those provided by the adoptive families in this study, we would predict that their IQ scores would be 10–20 points higher than the scores are under current rearing conditions.

SOCIAL IMPLICATIONS OF THE STUDY

Given the above-average IQ scores of black/interracial children adopted transracially, it may seem that we are endorsing the adoption of black children by white families as a social policy. There is no question that adoption constitutes a massive intervention, as noted earlier, and that it has a favorable impact on IQ scores. However, there is good reason why transracial adoption is not a panacea for low IQ scores among black children. Only an infinitesimally small proportion of black children will ever be available for adoption, and of those, many will and *should be* adopted by black families.

What we do endorse is that *if* higher IQ scores are considered important for educational and occupational success, then there is need for social action that will provide black children with home environments that facilitate the acquisition of intellectual skills tapped by IQ measures. Although there has been some research describing the immediate environments of middle-, working-, and lower-class homes (Hess & Shipman, 1965; Kohn, 1959; White & Watts, 1973), there is still a need to investigate how families, such as these transracial adoptive families, constitute an ecological system in which IQ skills are developed. The physical environment, the amount and quality of parent–child interaction, the parents' attitudes and practices in child rearing, the neighborhood and community settings of the family, and the larger social contexts of employment, economic security, and

cultural values must all be considered in describing the parameters of family effects.

Educational interventions alone are unlikely to have the effects reported here for adoption. Schools, as presently constituted, cannot have the far-reaching, intensive impact of the family and home.

Our emphasis on IQ scores in this study is not an endorsement of IQ as the ultimate human value. Although important for functioning in middle-class educational environments, IQ tests do not sample a huge spectrum of human characteristics that are requisite for social adjustment. Empathy, sociability, and altruism, to name a few, are important human attributes that are not guaranteed by a high IQ. Furthermore, successful adaptation within ethnic subgroups may be less dependent on the intellectual skills tapped by IQ measures than is adaptation in middle-class white settings.

This study was not designed to address the social issues we have just highlighted. Rather, it was intended to examine the effects of cross-fostering on the IQ scores of black/interracial children. The major questions of the study concerned the relative effects of genetic background and social environment on IQ levels and variations among socially classified black children. The major findings of the study support the view that the social environment plays a dominant role in determining the average IQ level of black children and that both social and genetic variables contribute to individual variation among them.

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