

1976

# A Comparison of Low and Middle Socio-Economic Status Blacks on Two Measures of Intelligence

Anthony Young

*Eastern Illinois University*

This research is a product of the graduate program in [Clinical Psychology](#) at Eastern Illinois University. [Find out more](#) about the program.

---

## Recommended Citation

Young, Anthony, "A Comparison of Low and Middle Socio-Economic Status Blacks on Two Measures of Intelligence" (1976). *Masters Theses*. 3468.

<https://thekeep.eiu.edu/theses/3468>

This is brought to you for free and open access by the Student Theses & Publications at The Keep. It has been accepted for inclusion in Masters Theses by an authorized administrator of The Keep. For more information, please contact [tabruns@eiu.edu](mailto:tabruns@eiu.edu).

PAPER CERTIFICATE #2

TO: Graduate Degree Candidates who have written formal theses.

SUBJECT: Permission to reproduce theses.

The University Library is receiving a number of requests from other institutions asking permission to reproduce dissertations for inclusion in their library holdings. Although no copyright laws are involved, we feel that professional courtesy demands that permission be obtained from the author before we allow theses to be copied.

Please sign one of the following statements:

Booth Library of Eastern Illinois University has my permission to lend my thesis to a reputable college or university for the purpose of copying it for inclusion in that institution's library or research holdings.

Aug. 4, 1976  
Date

I respectfully request Booth Library of Eastern Illinois University not allow my thesis be reproduced because \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Author

pdm

A COMPARISON OF LOW AND MIDDLE SOCIO-ECONOMIC STATUS

BLACKS ON TWO MEASURES OF INTELLIGENCE.

(TITLE)

BY

ANTHONY YOUNG

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF

Master of Arts in Clinical Psychology

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY  
CHARLESTON, ILLINOIS

1976  
YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING  
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

Aug. 4, 1976  
DATE

Aug 4, 1976  
DATE

A COMPARISON OF LOW AND MIDDLE SOCIO-ECONOMIC STATUS  
BLACKS ON TWO MEASURES OF INTELLIGENCE

BY

ANTHONY YOUNG

B.A. in Experimental Psyc., Millikin University, 1975

ABSTRACT OF THESIS

Submitted in partial fulfillment of the requirements  
for the degree of Master of Arts in Psychology at the Graduate School  
of Eastern Illinois University

Charleston, Illinois  
1976

348812

A B S T R A C T

The testing of persons with highly dissimilar cultural backgrounds has received increasing attention since mid-century. In America, the practical problems of cross-cultural testing has been chiefly associated with subcultures or minority cultures within the dominate culture. Havinghurst (1951), in citing cultural differences which may affect intelligence performance named social class among the major types of culture in the U.S. A review of the literature revealed that research is close to unanimous in showing that there are significant differences in intelligence performance of children and youth from different socio-economic backgrounds. These findings revealed that children of higher socio-economic status (SES) levels always secure higher scores on intelligence tests than children of low SES (Eells, 1951). Several investigators (Hess and Shipman, 1965; Rychman, 1967) compared the performance of lower and middle class children on various tests which required abstract language and some degree of verbal expression. The major differentiating characteristic between the two socio-economic groups was general language ability which accounted for the largest portion of the variance in favor of middle class Ss. A hypothesis was fomulated which stated there would be a significant interaction of test with SES in the performance of low and middle SES Blacks on the Black Intelligence Test of Cultural Homogeneity (BITCH) and the Shipley-Institute of Living Scale (S-IIS). The hypothesized direction was that low SES Ss would score higher than middle SES Ss on the BITCH

while middle SES Ss would score higher than low SES Ss on the S-ILS. Forty-eight Black high school Ss were selected from the Douglas area of Chicago. Half of the Ss were of low SES while the other half were of middle SES. SES was determined through the use of the Hollingshead Index of Social Position. The two SES groups were matched on age and sex. Each SES group consisted of 11 males and 13 females. Half of each group was administered the BITCH first and the S-ILS second while the opposite half received the S-ILS first and the BITCH last. Both tests were administered according to the standard procedures in each manual. An analysis of variance of the T-scores based upon norms of the two tests was analyzed by a 2(SSES) X 2 (Sex) X 2 (Age) X 2 (Test) mixed factorial design. The results supported the hypothesis that a significant interaction of test with SES would be found in the performance of low SES and middle SES Blacks on the BITCH and S-ILS. The main effect of Age was found to be significant ( $p < .01$ ) while the main effects of Sex and SES were not significant. The interactions of SES X Test and Sex X Test were significant ( $p < .05$ ). The study was limited by small sample size and the fact that the regions and Ss of the sample differed from those of the norm groups of the BITCH and S-ILS. Evidence was found to support the notion that the socio-economic status of the individual is differentially related to the performance on the BITCH and S-ILS.

TABLE OF CONTENTS

INTRODUCTION . . . . .	1
METHOD . . . . .	15
Subjects . . . . .	15
Measuring Instruments . . . . .	15
Procedure . . . . .	16
RESULTS . . . . .	18
DISCUSSION . . . . .	23
REFERENCES . . . . .	26

LIST OF TABLES

TABLE

1. Means and Standard Deviations of S-ILS and BITCH T-Scores for SES, Sex, and Age . . . . .	18
2. Analysis of Variance . . . . .	19

FIGURE

1. Sex X Text . . . . .	20
2. SES X Test . . . . .	22



## Introduction

The testing of persons with highly dissimilar cultural backgrounds has received increasing attention since mid-century. In America, the practical problems of cross-cultural testing have been associated chiefly with subcultures or minority cultures within the dominant culture. There is now widespread concern regarding the applicability of present tests to "culturally disadvantaged" groups.

As Chawla (1969) and Cole (1957) have pointed out "cultural disadvantage" is a relative concept. Objectively there is only difference between two cultures or subcultures. Each culture fosters and encourages the development of behavior that is adapted to its values and demands. When an individual must adjust and compete within a culture or subculture other than that in which he was reared, then cultural difference is likely to become cultural disadvantage.

Some of the earliest cross-cultural tests were developed for testing the large waves of immigrants coming to the United States at the turn of the century. Cross-cultural tests attempt to rule out one or more parameters along which cultures may vary. Such a parameter is language. If the culture is to be tested spoke different languages, the tests required no spoken language on the part of either examiner or subject. When educational backgrounds differ widely, or if illiteracy was prevalent, reading was ruled out. Another parameter in which culture or subcultures differ is that of speed. "The tempo of daily life,

the motivation to hurry and the value attached to rapid performance, vary widely among ethnic minority groups within a single nation, between urban and rural subcultures" (Knapp, 1960, p 14) and between social classes.

Other parameters along which cultures differ, concern test content. Most non-language and non-reading tests call for items of information that are specific to certain cultures. To control this type of parameter the so called "culture-fair" tests were developed. These tests are supposedly designed to rule out several of the previously stated cultural parameters; also including knowledge and intellectual skills specific to any given group.

During the period of 1950 to 1966 many articles pertaining to "culture-free" and "culture-fair" tests appeared in the literature (Williams, 1975). Williams suggested that although several test claiming to be culturally fair were constructed during that period none proved to be of great significance. The findings generally reveal lower predictive validity for culturally-fair tests than for conventional ones (Anastasi, 1968). Wesman (1968), in his presidential address at the 1967 APA annual meeting concluded that the search for a culture-fair tests was "sheer-nonsense."

In psychological research, class is often used interchangeably with culture. Havinghurst (1951), in citing cultural difference which may affect intelligence test performance names social class among the three major types of culture in U.S. along with common American traits and nationality and ethnic groups. The difference in class or culture is usually attributed to differences in educational levels, verbal skills, occupations, motivations, area of residence, preoccupation with short vs.

long term planning, involvements with the fine arts. Leshan (1952) contends that members of the lower class culture are more concerned with gaining immediate gratification of their wants than members of the middle and upper class cultures. He further argued that lower class individuals are concerned only with the day to day survival while middle class individuals are apt to plan for their future.

Of the conventional tests currently in use, the most commonly used to assess the intelligence of Blacks is the Stanford-Binet (SB), the Picture Vocabulary Tests (PPVT), and the Weschler Intelligence Scale for Children (WISC). All three are norm referenced tests. A norm-referenced test is a standardized measure which has been administered with standard directions under standard conditions to a sample group which is supposedly representative of the population for whom the test is intended.

A test must be representative of the group for whom it was designed (Anastasi, 1968). Mercer and Brown (1973) emphasized this point when they stated:

"The characteristics of the particular population on which the test is standardized establish the boundaries of 'normal.' The norms based on the performance of one population cannot be generalized beyond that population unless the populations are identical on all characteristics significant to the performance being evaluated. (pg. 64)"

The standardization group for the SB consisted of 3,184 native born White subjects. Mercer and Brown (1973) reported that the final sample which contained no Blacks of Mexican-Americans, was slightly higher in socio-economic level than the census population, and had disproportionately more urban than rural subjects. Though the test had been revised in 1960, the revision did not include restandardization (Terman & Merrill, 1960).

The PPVT was standardized on 4,012 White children and youth who resided in and around Nashville, Tenn. while the WISC (Weschler, 1949) was standardized on 2,200 White boys and girls. Weschler (1944) clearly warned that his Weschler-Bellevue test norms were to be used exclusively for the White population:

"We have eliminated the colored versus white factor by admitting at the onset, that our norms cannot be used for the colored population of the United States. Though we have tested a large number of colored persons, our standardization is based upon white subjects only. We omitted the colored population from our first standardization because we did not feel that norms derived by mixing the populations could be interpreted without special provisos and reservations. (pg.107)"

If the purpose of standardizing a test is to make it useful for certain reference groups, then it is clearly indicated that the SB, PPVT, and WISC are invalid for the use with Blacks and other minorities groups. The case being that these tests have been exclusive and non-representative of these groups rather than inclusive and representative.

One of the underlying assumptions of intelligence tests is that items are supposedly selected on the basis that individuals of the same age have had the same opportunity to become familiar with the content of the items. However, it has been noted by Williams (1973) that "persons from different cultural backgrounds will respond differently to the questions, 'What is the thing to do if you find a purse with ten dollars in it?' One child might respond, 'Try to find the owner,' Another child might respond, 'Keep it.' Williams concluded that 'such items lacked objectivity in scoring as they fail to take cultural differences into considerations.'" (pg. 31)

Shuey's The Testing of Negro Intelligence (1958) has provided a large

review of over two hundred studies bearing on racial differences in intelligence. The bulk of the research she has cited indicated that most Blacks score lower on IQ tests than most Whites. Shuey interpreted this fact as pointing " to the presence of some native differences between Negroes and Whites as determined by the intelligence tests. (pg. 318)"

A critical discussion concerning her review was undertaken by Pettigrew (1964). In the report Pettigrew points out that "she ignored the newer conceptions of intelligence and instead relied heavily upon the earlier less sophisticated investigations, with over half of her references dated prior to World War Two. She also concentrated on research performed in the South, with three fourths of her studies on students coming from the tightly segregated Southern and border communities. (pg.3)"

A major argument given by Jensen and others in favor of a substantial genetic component in racial IQ differences is that a difference persist when comparisons are made between Blacks and Whites of the "same" socio-economic status. This status is usually defined in terms of occupation, income, and schooling. However, Bodner (1972) contends that:

"It is difficult to see how the status of blacks and whites can be compared. The very existence of a racial stratification correlated with a relative socio-economic deprivation makes this comparison suspect. Black schools are well known to be generally less adequate than white schools, so that equal numbers of years of schooling does not mean equal educational attainment.... It is impossible to accept the idea that matching for status provides an adequate, or even a substantial, control over the most important environmental differences between blacks and whites. (p.107)"

Jensen (1969) and Humphreys (1969) reported that in the general population Blacks are about 15 IQ points or one standard deviation below Whites. In comparison to these findings is an investigation by

Skodac and Skeels (1949). These investigators studied the IQ's of White children which were placed in adopted homes through Orphans' Home Institutions in Iowa. Most of the infants were tested before reaching six months old and compared their IQ's with those of their biological and foster parents. A higher correlation was found between the IQ's of the adopted children and their biological parents, than with their foster parents. The mean IQ of the 63 children was found to be 106 during a follow-up when they were about 13 to 14 years old. The mean IQ of the biological mothers was 85.5, a difference of 20 points. This study suggest that if one assumes that the biological mothers came from a low socio-economic group and that their husbands had the population average IQ of 100 and that IQ is completely genetically determined, the expected average IQ of the children would be only one half of their parents IQ  $(100-85.5)=92.75$ . The difference between expected and observed is  $106-92.75=13.25$  points, which is about the same as the average Black-White IQ difference. Skodac and Skeels reported that the adoptive homes were strongly biased towards the upper-socio-economic strata. This study indicates the striking effect and improved environment can have on IQ.

Anastasi (1958) has pointed out that the "connection between the genes an individual inherits and his behavioral characteristics and his intellect is highly indirect, devious." According to Liverant (1960) intelligence is descriptive rather than an explanatory concept. The term was used to cover that combination of abilities required for survival and advancement within a particular culture. Levinson (1961) added that "an individual's relative ability will tend to increase with age in those functions whose value is emphasized by his culture or sub-

culture and his relative ability will tend to decrease in those functions whose values are deemphasized."

The present tests of intelligence are purported to predict success in the present school curriculum. Davis (1955) suggested that, "by thus narrowly limiting their criterion of intelligence, the present tests fail to tap a great many kinds of mental activity. This narrow scope of the tests penalize most heavily the pupils of the low socio-economic groups, because these groups have least training and motivation to solve academic problems. (pg. 39)" Hudson (1972) contended that intellectual skills are acquired by opportunity and suggested that for this reason, the members of lower socio-economic groups perform poorly on conventional intelligence tests.

A review of the literature reveals that research is close to unanimous in showing that there are significant differences in intelligence performance of children and youth from different socio-economic backgrounds. These findings reveals that children from the higher SES levels always secure the higher intelligence test (Eells, 1951). Eells argues that when comparisons are made in terms of median I.Q., typical differences between the IQs of children of professional parents and those of unskilled laborers range from 15 to 25 IQ points. Eells further argued that "these findings remain substantially the same irrespective of the test used (excluding performance tests) or how the social status is defined or measured (p 12)".

One of the earliest studies which investigated the effects that socio-economic status on intelligence tests was performed by Tanser (1939). Among the four tests he administered was the Short Scale of the Pinter-Paterson. This test was given to 162 Black and 211 White Ss from seven public schools in Kent County, Ontario. Tanser stated that

the Whites attending the urban school came from homes of considerably higher socioeconomic status than the homes from which the Black Ss came. However, he emphasized that the Black and White Ss attending the six rural schools came from homes which were generally of the same lower-class status.

In contrast to Blacks in Southern States, (at the time of the survey), Tanser reported that the Blacks of Kent County have been subjected to less pronounced color prejudice and in general to have been allowed better social, cultural, economic, and educational advantages. It was stated that "with few exceptions, " the Kent County Blacks were on the same level with Whites in regard to every political and social advantage.

The mean IQ on the Pintner-Paterson of the Blacks was 91, and that for the Whites was 109.6. The standard deviation of the Black distribution was reported to be 3.5 points less than that for Whites. It is interesting to note that eighteen percent of the Blacks reached or exceeded the median of the Whites Ss in Kent County while one third of the Blacks reached or exceeded the median of the American Whites. In conclusion to these findings Tanser wrote:

"From the evidence presented the deduction follows that according to the Short Scale of the Pintner-Paterson Performance Tests the Negroes as a group are low in intelligence and considerably lower than the Whites tested."  
(pg. 129)

Tanser's study has been severely criticized by many investigators. (Anastasi, 1958; Klineberg, 1963; and Smart, 1963) on the point that the social economic conditions of the Black and White groups were not the same.

McGurk (1953) found on a test he devised, that the test superiority of the high SES Blacks over the low SES Blacks is associated more with superior performance on non-cultural questions than cultural questions. In this study, McGurk compared two groups of Blacks (N=58)



on non-cultural and cultural questions. Socio-economic status was defined in terms of the score obtained on the Sims Record Card Revision (SRCR) Blacks of the high SES group was composed of those that obtained Sims scores in the highest 25% of the range of Black scores. The low SES group was composed of those that obtained a SRCR score in the lowest 25%. Test questions were defined as non-cultural or cultural according to the combined judgements of 78 school teachers, psychologists, and sociologists.

Higgin and Sivers (1958) also investigated the effects of socio-economic factor on intelligence tests. It was hypothesized, for a population of low socio-economic status, that there was no significant difference between the Stanford-Binet (SB) IQ and an IQ obtained from a non-verbal test of intelligence. In their study 789 Ss, with an age range from seven years through nine years , were administered the SB and the Colored Haven Progressive Matrices (CRPM). The sample contained the following distribution: 349 Black children 440 White children, 389 boys, 400 girls; 271 seven year olds, 273 eight year olds, and 245 nine year olds. All Ss attended public schools serving the lowest socio-economic areas of a northeastern city. Subjects were tested individually, first with the SB Form L followed by the CRPM.

Results were compared on the basis of age, sex, race; sex.-race, age-race-sex, and SB IQ levels. CRPM scores were analyzed in the same manner. No evidence was found to support the hypothesis that social bias in the verbal items of the SB depressed the SB IQ below the non-verbal nonsocially biased CRPM IQ. The mean SB IQ's were similar for Black and White children, boy and girls, and for grouping, within the three age levels. Higgins and Sivers found that the CRPM discriminated on the basis of race, with Black mean scores in all instances lower than white mean scores. No significant difference was found for White

children between their SB IQ and their non verbal CRPM IQ. The CRPM IQ means of the Black children were found to be significantly lower than their SB IQ means. It was suggested that intelligence tests heavily loaded with non verbal items may discriminate against Black children.

Several investigators (Hess and Shipman, 1965; Ryckman, 1967) compared lower-class and middle-class children on various tests which required abstract language on some degree of verbal expression. The major differentiating characteristic between the socio-economic groups was general language ability which accounted for the largest portion of the variance in favor of middle class children.

A study of Willis and Pishkin (1974) compared the perceptual abilities of children from low and middle class groups on the Bender Visual-motor Gestalt test, the Vane Kindergarten Test, and the PPVT, Form B. The sample consisted of 120 male and female white children from kindergarten, first and second grades in a public school system. Sixty Ss, 30 males and 30 females were from middle class areas. Lower class was determined by: attendance in a Title I school, 2.) parents annual income less than \$5,000 when both parents were working, or less than \$3000 with one parent working, or 3.) the family was receiving welfare support. Middle class Ss were selected according to the area of residence and according to the occupation of the father.

Hypothesis 1 essentially stated that lower-class children would perform lower than middle-class children on the Bender; hypothesis 2 stated that errors would decrease as function of age. An analysis of variance yield results supporting both hypothesis. Two of the three main effects, age & SES, were found to be significant ( $p < .05$ ). The hypothesis which stated

11

that scores on the Vane would differ significantly between socio-economic level groups and between age groups was supported with the exception of the Perceptual-motor subtest at Grade 2. Results of analysis of variance revealed that the age and socio-economic status effects were significant for all three Vane subtests ( $p < .01$ ) and the age X socio-economic status interaction was significant for all three subtests (all  $ps < .05$ ). The PPVT was administered as a screening test and revealed that the mean IQ's at each age level for middle class Ss were higher than the mean IQ's for lower class Ss.

Because of the cultural isolation in Black and White societies, significant language differences are present. Differences in language and dialect may produce differences in cognitive learning styles, but a difference is not a deficiency (Williams, 1973). Linguists do not limit themselves to defining dialect as they way words are pronounced. As Baratz (1968) emphasizes:

"Dialect refers to the linguistic structures of a people. The dialect is a fully developed system."(pg. 35)

Understanding this, one must realize that the Black child is speaking a well developed language commonly referred to as nonstandard English.

The social scientists' lack of knowledge of the Black experience has lead them to biased conclusions about Black Americans. As Morris (1972) puts is:

"The total denial of Negro culture is consonant with the melting pot mythology and it stems from a narrow conceptualization of culture by non-anthropologist. Social science has refused to look beyond the surface similarities between Negro and white behavior and therefore has dismissed the idea of subtle yet enduring differences. In the absence of an ethno-historical perspective, when differences in behavior, intelligence, or cognition occur they are explained as evidence of genetic defects or as evidence of the negative effects of

slavery, discrimination, and poverty. Thus the social scientist interprets differences in behavior as genetic pathology or the alleged pathology of the environment; he therefore fails to understand the distortion of Negro culture than his ethnocentric assumptions and measuring devices have created. The picture emerges from such and interpretive schema may be seen as culturally biased and as a distortion of the Negro experience." (pg. 377)

In spite of the many attempts to develop culturally fair tests none has been developed. Barnes (1972) suggested constructing tests which are culturally specific instead:

"Perhaps a potentially more fruitful approach lies in the development of 'culture-specific' tests. If this suggestion seems far out, then ponder this. The model for the culture-specific tests already exist, and when appropriately used, displays considerable effectiveness. Consider for example, the Stanford-Binet, and the WISC. These are examples of 'culture-specific' tests. The culture in this instance is what is frequently referred to as 'white middle class' ...The point to be made is that 'culture-specific' tests could be used to determine the child's ability to function symbolically or to think in terms of his own culture. After all, this is what the SB does for the white child. If he can learn in one environment he can learn in another." (pg. 7)

The advantage of the culture-specific tests is the fact that it deals with content material which the child is familiar with (Williams, 1975). This means that the child has stored away the information of his experiences and does not have to deal with unfamiliar test items.

Another psychologist Morris (1972) has stated that tests could be developed that are culturally biased against Whites. For example:

"Last week I decided to 'make it' to the 'City'. We headed straight Uptown and 'fell by' this 'blind pig'. This place was really together'; The hostess was a 'stone fox' who made sure everything was 'everything'. The owner was a really 'down' dude who kept the 'jive' elements out and didn't let any 'block boys' gorilla' their way pass him. The food was laid from 'wrinkled steak' and 'greens' right down to 'Georgia-Hams' and 'Hot Buttered Soul' and 'Movement' hung in. I knew there wouldn't be any 'busts' so I just laid in and 'grooved'." (pg. 380)

The purpose of this brief example is to simply show that what is defined as legitimate to constitute intelligence is greatly influenced by ones values. Morris contended that in addition to asking questions about what one comprehended from the paragraph, "one could develop a series of objective analogies. One such analogy could be the following:

'Wrinkled steak is to (a)filet mignon  
 (b)barbecued spareribs  
 (c)chitterlings  
 (d)fried chicken

as Ripple is to (a)C.C.  
 (b)Thunderbird  
 (c)J & B  
 (d)Beer

His point, 'that to test the IQ's of whites by instruments heavily weighted in the black subculture is as equally invalid as testing the IQ's of blacks with instruments heavily weighted in the dominant white society."

A recent and highly popularized culture-specific test is the Black Intelligence Test of Cultural Homogeneity (BITCH) which was developed by Robert L. Williams (1972). The standardization group consisted of 100 Black and 100 white subjects. Half of the Ss were from low socio-economic levels whereas the other half came from middle income levels. The standardization procedures revealed no sex differences on the measure. Currently a sample of 54,000 Black students are being tested in four regions of the country to determine test consistency and regional variations.

The purpose of the present study is to investigate difference in the performance of low SES and middle SES Blacks on a conventional versus a culture specific measure of intelligence. The intelligence measures are the BITCH and the Shipley-Institute of Living Scale (S-ILS).

Hypothesis Being Tested

1. There will be a significant interaction of test with SES in the performance of the low SES Blacks and the middle SES Blacks on the BITCH and the S-ILS; low SES Ss will score higher than middle SES Ss on the BITCH while middle SES Ss will score higher than low SES Ss on the S-ILS.

## Method

### Subjects

Subjects were 48 black high school students, all of whom resided in the Douglas area of Chicago. Subjects were recruited through community directories, youth social clubs, various community churches, and personal contacts. Socio-economic status of each S was determined by the Hollingshead Index of Social Position (1958). Low SES Ss all resided in public housing projects while middle SES Ss resided in a high rise housing development with a minimum base monthly rent of \$180.

### Measuring Instruments

The Shipley-Institute of Living Scale (Shipley, 1940), formerly called the Shipley-Hartford, consists of a 40 item multiple choice vocabulary subtest (10 min.) and a 20 item abstract thinking subtest (10 min.) in which the S must complete a series of problems in inductive reasoning. The S-ILS has been used as a quick measure of average intelligence (Sines & Simmons, 1959, Palmer, 1964).

Shipley based IQ estimates have been developed by Sine (1958), who provided tables for the conversion of raw scores into IQs through the use of the Weschler-Belleve (WB), Form 1 Manual. The validity of the S-ILS has been ascertained by correlating its scores with those of the WB for Whites.

Various investigators (Wright, 1946; Garfield and Fey, 1948; Sines, 1958) have reported correlations of .36 to .87, depending upon the populations and subtests being compared.

The BITCH (Williams, 1972) is a 100 item culture-specific, multiple choice vocabulary test. All items are purported to have been taken directly from the Black experience. The test was designed primarily for adolescents and adults. Williams feels it has the potential for screening persons who have been determined mentally retarded or low IQ because a high score on the BITCH would contradict a low score on the WISC and SB. Williams further argues that high scores (above 80) would indicate that if an individual has the ability to learn in his native environment he can learn in another.

#### Procedure

All Ss were required to complete a form stating their sex, age, birth-date, area of residence, and the occupation and number of years of education for the head of their household.

Testing took place at community centers within the Douglas community within a seven day period. The centers were a youth activity center located in the public housing project and a church located near the middle-class high rise apartments.

All Ss were tested at their respective areas of residence and were told only that they would be taking part in a community survey. Each SES group consisted of 24 Ss (11 males and 13 females.). Half of each SES group was administered the BITCH first and the S-ILS last while the opposite half received the S-ILS first and the BITCH last. Both tests were administered according to the standard procedures in each manual.

During one testing session four low SES Ss left the center without



completing the first fourth of the BITCH and were not administered the S-ILS. Data for these Ss was not included in the Results.

### Results

A significant difference was found between the occupational and educational levels of the low SES and middle SES Ss (occupation  $t=14.156$ , 46 df,  $p < .001$ ; education  $t=13.258$ , 46 df,  $p < .001$ ) through the use of Hollingshead Index of Social Position (1958). There were three between subject variables and one within subject variable. The means, SDs, and n are presented in Table 1.

TABLE 1  
Means and Standard Deviations of S-ILS and BITCH T-Scores  
for SES, Sex, and Age

		<u>Low SES</u>		<u>Middle SES</u>	
		<u>16</u>	<u>17-18</u>	<u>16</u>	<u>17-18</u>
S-ILS	M	n = 5 $\bar{X}=51.8$ SD=4.60	n = 6 59.5 8.06	n = 5 59.8 4.55	n = 6 62.8 4.26
	F	n = 6 $\bar{X}=49.66$ SD=3.44	n = 7 56.0 6.83	n = 6 60.17 4.79	n = 7 62.29 2.29
BITCH	M	n = 5 $\bar{X}=10.0$ SD=11.18	n = 6 14.83 11.55	n = 5 10.0 11.18	n = 6 13.3 20.41
	F	n = 6 $\bar{X}=13.50$ SD=7.48	n = 7 28.29 10.97	n = 6 12.83 12.24	n = 7 24.29 16.81

An analysis of variance of the T-scores based upon the norms of the two test was analyzed by a 2(SES) X2 (Sex) X2 (Age) X2(Test) mixed factorial design. The main effect of age was found to be significant

(16 year olds  $\bar{X}=33.43$ , 17-18 year olds  $\bar{X}=40.37$ ;  $F=11.778$ , 1/40 df,  $p < .01$ ) while the main effects of sex and SES were not significant (see Table 2).

TABLE 2  
Analysis of Variance

Source	df	S	F
Total	95	52,228.46	
Between S	47	5,641.58	
Betw. trt	7	1,750.42	
SES	1	176.04	1.809
Sex	1	237.59	2.44
SES X Sex	1	3.090	
Age	1	1,145.77	11.778*
SES X Age	1	79.09	
Sex X Age	1	107.5	
SES X Sex X Age	1	1.336	
S/SES X Sex X Age	40	97.279	
Within S	48	46,586.876	
Test	1	41,168.16	
SES X Test	1	433.5	7.229*
Sex X Test	1	524.25	8.738*
SES X Sex X Test	1	25.699	
Age X Test	1	112.736	
SES X Age X Test	1	3.786	
Sex X Age X Test	1	167.280	1.122
SES X Sex X Age X Test	1	2.576	
S-Test/SES X Sex X Age	40	59.96	

\* $p < .05$

Figure 1

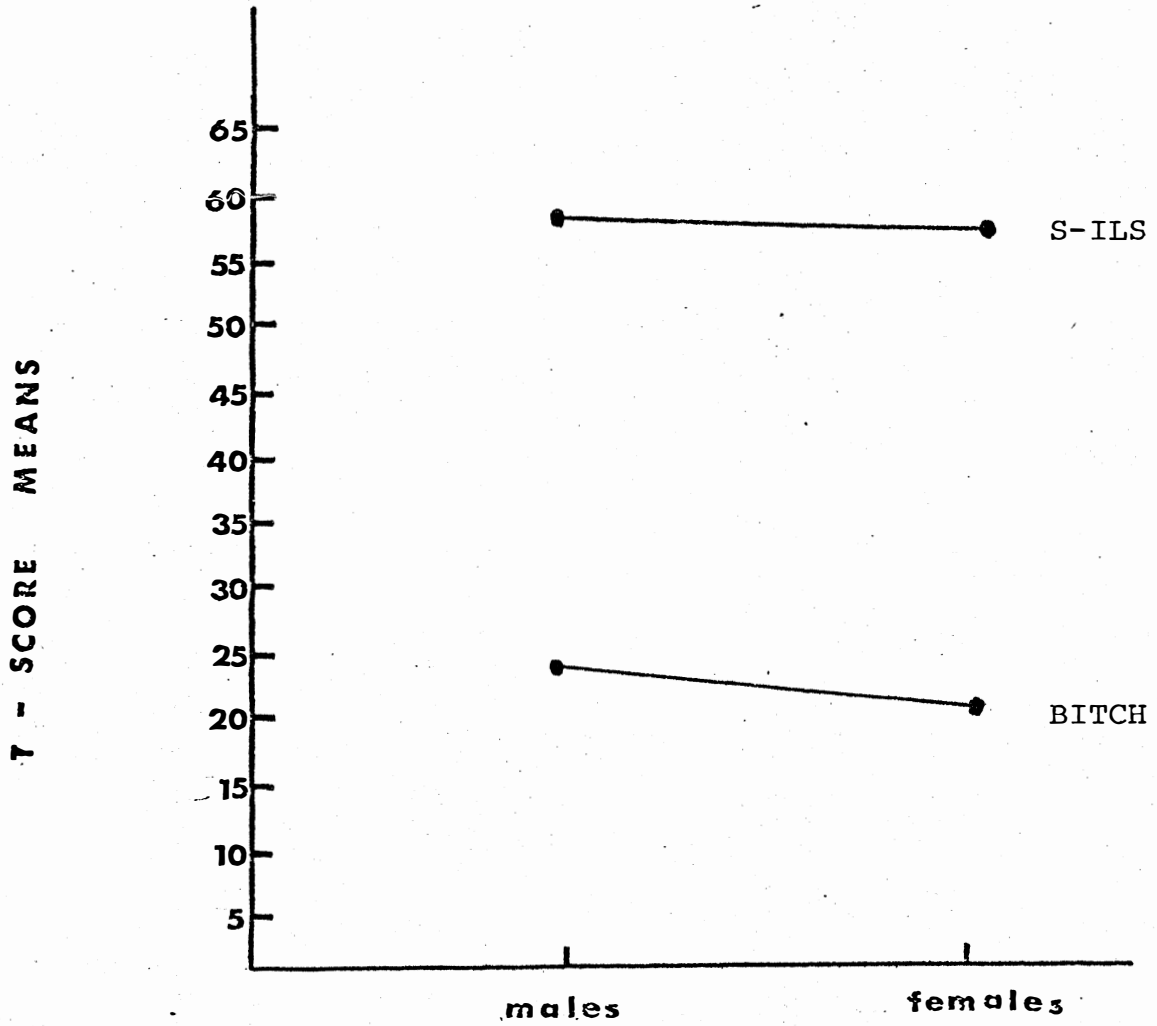


Figure 1. Sex X Test

The interactions of Sex X Test was found to be significant ( $p < .05$ ) (see figure 1). A simple main effect test of difference between male and female Ss on the S-ILS was not significant ( $F=.04, 1/40 \text{ df}, p > .10$ ). However, the difference between male and female Ss on the BITCH was found to be very significant ( $F=12.24, 1/40 \text{ df}, p < .01$ ).

The interactions of SES X Test was also found to be significant ( $p < .05$ ) (see figure 2). A simple main effect test (Keppel, 1973) of the difference between low SES and middle SES Ss on the S-ILS was significant ( $F=9.68, 1/40 \text{ df}, p < .01$ ). However, the difference on the BITCH was not significant ( $F=.47, 1/40 \text{ df}, p > .10$ ).

Figure 2

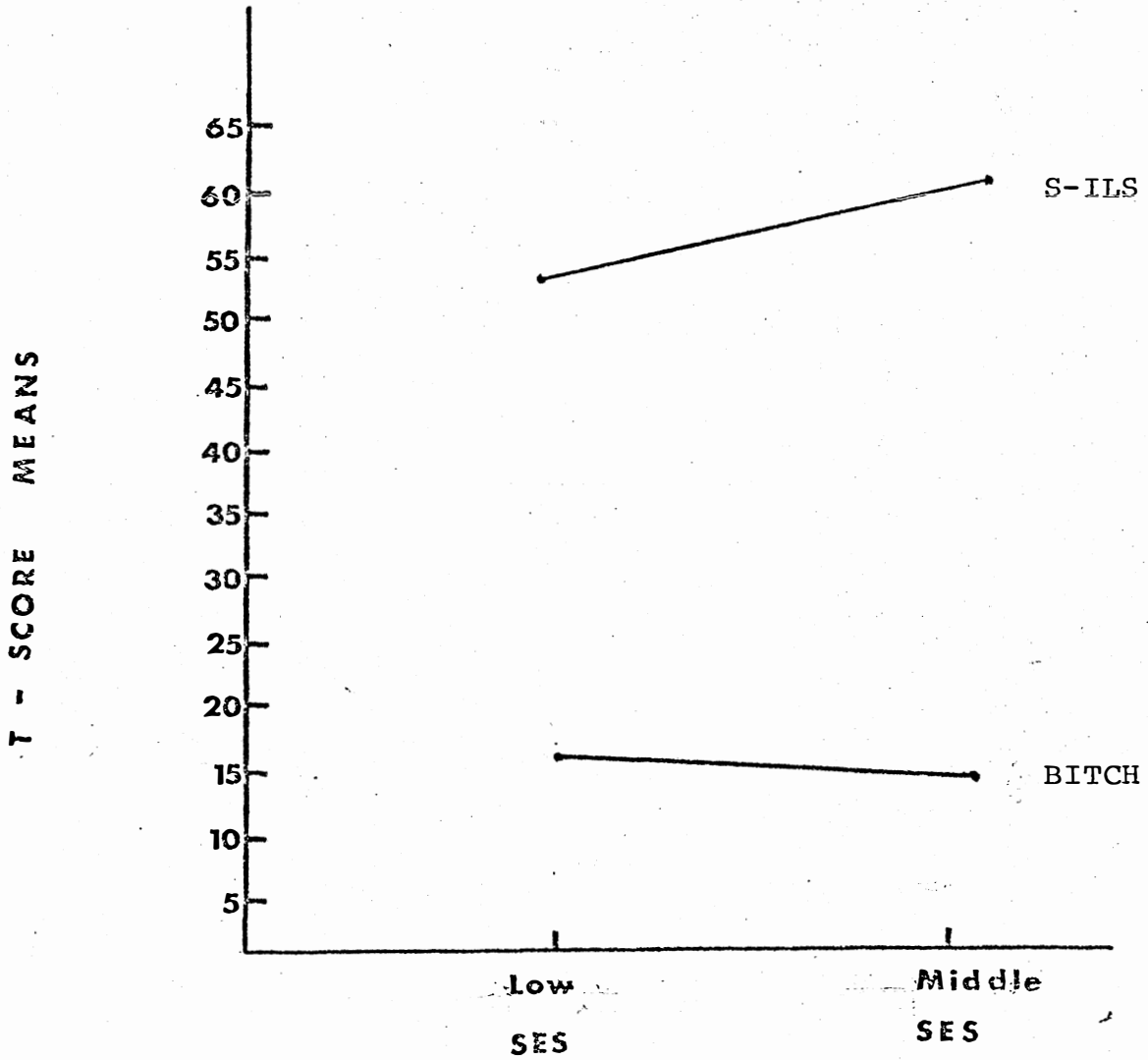


Figure 2. SES X Test

### Discussion

The results supported the hypothesis that a significant interaction of test with SES would be found in the performance of low SES and middle SES Blacks on the BITCH and S-ILS. The notion that low-class Ss perform lower than middle class Ss on the S-ILS is confirmed by the results. This is demonstrated by an increase in mean T-scores going from the lower class to the middle class Ss on the S-ILS.

The main effect of age was found to be significant with the older Ss performing higher than the younger Ss. These results were expected on the S-ILS but not on the BITCH. The results implied that a time factor may have influenced the performance on this measure. The BITCH was standardized in 1972 when its slang terms were considered common to the Black experience. The slang language of the community has probably changed in recent years thus causing the older Ss to be familiar with the older as well as newer terms while the younger Ss were familiar with only the more recent expressions. This change of slang terminology could account for the low BITCH scores, since the ages of Williams' norm group was the same as the ages of subjects in the present study.

When test performance was compared on sex, little difference was found between the means of male and female Ss on the S-ILS. The results confirmed a study by Corotto (1966) who found lack of evidence for a sex difference on the S-ILS. There was a trend for males to obtain a significantly higher mean than females on the BITCH, although Williams (1972) re-

ported no sex difference on the measure. This could be accounted for by the males probably being more familiar with the slang language of the community through more exposure. On the other hand, the females may have been sheltered more, thus causing them to have less exposure to and familiarity with the terms.

The results of this study tend to indicate support for the Williams (1972) contention that the BITCH is a culture-specific measure. The fact that the middle-class mean was slightly lower than the low-class mean is indicative of this point. With the trend being in that direction, the results seem to suggest that the members of the middle class may have been penalized on that test.

As Chawla (1969) and Cole (1975) pointed out, "cultural disadvantage" is a relative concept. It is possible that by the middle class culture being different, its members were at a cultural disadvantage on the BITCH; assuming that many of the items were heavily weighted in the lower class culture. The results also suggested that the lower-class Ss could have been at a cultural disadvantage on the S-ILS by many of its items being heavily weighted in the middle class culture.

McGurk's (1953) findings which suggested that the test superiority of high SES Blacks over low SES Blacks is associated more with superior performance on non-cultural questions than cultural questions tend to be supported by the present study because, middle SES Ss performed significantly higher than low SES Ss on the S-ILS, a non-cultural measure than on the BITCH, a supposedly culture-specific measure.

Evidence of the present study also tends to differ from the findings by Jensen (1969) that reported in the general population Blacks are about 15



IQ points or one standard deviation below Whites. This difference could be due to the norming procedure of the S-ILS.

The present study was limited by small sample size and the fact that the regions and Ss of the sample differed from those of the norm groups for the SELS and BITCH. Furthermore, culture-specific tests may be particularly sensitive to regional differences. Thus, the present study is by no means conclusive of the various implications involved in assessing the intellectual and learning abilities of lower class and middle class Blacks. However, evidence was found to support the notion that the socio-economic status of the individual is differentially related to the performance on the BITCH and S-ILS.

References

- Anastasi, A. Differential psychology. New York: Macmillan, 1958.
- Anastasi, A. Heredity, environment, and the question "How?", Psychological Review, 1968, 65, 197-208.
- Baratz, S.S. & Baratz, J.C. Negro Children and Urban Education: A Cultural Solution. Bulletin of Minnesota Council for Social Studies, 1968 (Fall)
- Barnes, E. Testing and Minority Children: Imperatives for Change, 1972 National Leadership Institute Teacher Education/Early Childhood The University Of Connecticut, technical paper.
- Bodmer, T. The Environment factors of IQ. In Richardson, K. and Spears, D. (Eds.) Race and Intelligence. Baltimore: Penguin, 1972
- Chawla, T. R. An evaluative study of new culture-free intelligence test. Journal of Psychological Researches, 1969, 13, 74-76.
- Cole, M. Culture, cognition, and I.Q. testing. National Elementary Principal, 1975, 54(4), 49-54.
- Corotto, I. V. Effects of age and sex on the Shipley-Institute of Living Scale. Journal of Consulting Psychology, 1966, 30(2), 179.
- Davis, A. Social-class influence upon learning. Cambridge: Harvard Univ. Press, 1955.
- Eells, K. Intelligence and cultural differences. Chicago: University of Chicago Press, 1951
- Garfield, S. L. and Fey, W. F. A comparison of the Weschler-Bellevue and Shipley-Hartford Scales as measures of mental impairment. Journal of Consulting Psychology, 1948, 12, 259-264.
- Havinghurst, R. In Eells, K. (Ed) Intelligence and cultural differences. Chicago: University of Chicago Press, 1951.

- Hess, R. D. and Shipman, V. C. Early experience and the socialization of cognitive modes in children. Child Development, 1965, 36, 869-886.
- Higgins, C. and Sivers, C. H. A comparison of Stanford-Binet and Colored Raven Progressive Matrices IQs for children with low socio-economic status. Journal of Consulting Psychology, 1958, 22(6), 465-468.
- Hollingshead, A. B. and Redlich, M. D. Social class and mental illness. New York: John Wiley & Sons, 1958.
- Hudson, L. The context of the debate. In Richardson, K. and Spears, D. (Eds.) Race and intelligence. Baltimore: Penquin, 1972.
- Humphreys, L. Letters. Science, 1969, 66(3902), 167.
- Jensen, A. R. "How much can we boost IQ and scholastic achievement?" 1969, Harvard Educ. Rev. 39, 1-123.
- Keppel, G. Design and Analysis. Englewood Cliffs: Prentice-Hall, 1973.
- Klineberg, O. Negro-White differences in intelligence test performance: a new look at an old problem. American Psychologist, 1963, 18, 198-203.
- Knapp, R. R. The effects of time limits on the intelligence test performance of Mexican and American subjects. Journal of Educational Psychology, 1960, 51, 14-20.
- Leshan, L. L. Time orientation and social class. Journal of Abnormal and Social Psychology, 1952, 47, 589-592.
- Levinson, B. M. Traditional Jewish cultural values and performance on the Weschler tests. Journal of Educational Psychology, 1959, 50, 177-181.
- Lewinski, R. J. The Shipley-Hartford Scale as an independent measure of mental ability. Educational Psychological Measurements, 1946, 6, 253-259.
- Livarant, S. Intelligence: a concept in need of re-examination. Journal of Consulting Psychology, 1960, 24, 101-110.
- McGurk, F. C. J. Socio-economic status and culturally-weighted test scores of Negro subjects. Journal of Applied Psychology, 1953, 34(4), 276-277.
- Mercer, J. R. and Brown, R. Racial differences in IQ: fact or artifact. In Senna, C. (Ed.) The fallacy of IQ. New York: Third World Press, 1973.
- Morris, F. L. The Jensen Hypothesis. Journal of Black Studies, 1972, 4, 371-385.

- Pettigrew, T. F. Negro American intelligence. Princeton: D. Van Nostrand, 1964.
- Ryckman, D. A Comparison of information processing abilities of middle and lower class Negro kindergarten boys. Exceptional Children, 1967, 33, 545-552.
- Shipley, W. C. Shipley-Institute of Living Scale manual. Hartford: Neuro-Psychiatric Institute, 1940.
- Shuey, A. The testing of Negro intelligence. Lynchberg: Bell, 1958.
- Sines, L. K. Intelligence test correlates of Shipley-Hartford performance. Journal of Clinical Psychology, 1958, 14, 399-404.
- Skodac, M. and Skeels, H. M. A final followup study of one hundred adopted children. Journal of Genetic Psychology, 1949, 75, 65-125.
- Smart, M. S. Confirming Klineberg's suspicion. American Psychologist, 1963, 18, 621.
- Tanser, H. A. The settlement of Negroes in Kent County, Ont., and a study of their descendents. Chatham, Ont.: Shepherd Publ., 1939.
- Terman, L. M. and Merrill, M. A. Stanford-Binet intelligence. Boston: Houghton Mifflin, 1960.
- Weschler, D. The measurement of intelligence. Baltimore: Williams and Williams, 1944.
- Weschler, D. The manual for the Weschler intelligence scale for children. New York: The Psychological Corp., 1949.
- Wesman A. G. Intelligence testing. American Psychologist, 1968, 3, 267-274.
- Williams, R. L. The BITCH-100: a culture-specific test manual. Williams, 1972.
- Williams, R. L. Moderator variables as bias in testing Black children. Journal of Afro-American Issues, 1975, 1, 77-90.
- Williams, R. L. On Black intelligence. Journal of Black Studies 1973, 54(1), 29-40.

Willis, D. J. & Pishkin, V. Perceptual-motor performance on the Vane and Bender tests as related to two socio-economic classes and ages. Perceptual and Motor Skills, 1974, 38, 883-890.

Wright, M. E. Use of the Shipley-Hartford in evaluating intellectual functioning of neuropsychiatric patients. Journal of Applied Psychology, 1946, 30, 45-51.