The purpose of this study was to determine why so few black male high school graduates in the Minneapolis-St. Paul, Minnesota, area attend post-high school area vocational schools. The investigator developed an instrument comprised of ten Likert-type scales and one true-false scale to test for differences between groups of students on their perception of labor unions, area vocational schools, blue collar work, middle-class values, their parents' perception of education, their friends' perception of education, the concept "education is good," the concept "teachers are good," the concept "counselors are good," and their knowledge about area vocational schools. The subjects were randomly selected from the population of male high school seniors attending two inner city high schools in St. Paul, Minnesota. There were two randomly stratified random samplings: students were randomly selected within the parameters of race and (a) what they expected to be doing the next year, and (b) what they would like to be doing the next year. Analysis of variance, using orthogonal contrasts, was the principal statistical technique used. (Author/JM)
SOME VARIABLES WHY SO FEW BLACK HIGH SCHOOL GRADUATES
ATTEND POST-HIGH SCHOOL AREA VOCATIONAL SCHOOLS

By Max Farning

THE PROBLEM AND THE BACKGROUND

The Problem

It is apparent that the black race is not proportionately represented in the post-high school area vocational schools in Minnesota. Many young blacks who need to learn a saleable skill if they are to become successful wage earners in our technological society are not learning these skills.

The purpose of this study was to determine why so few black male high school graduates attend post-high school area vocational schools.

It is hoped that the information provided by this study will ultimately result in black students making greater use of available educational opportunities.

Review of the Literature

Studies (Krauss, 1964; Wilson, 1959; Bendix, Lipset and Malm, 1954; Harris, 1970) support the hypothesis that the parents' level of education is positively related to the sons' probable level of education. Others (Jenson and Kirchner, 1955; Carp, 1949; Stephenson, 1957; Krauss, 1964) found that the occupational level of the father is positively

1This article is a part of the author's Ph.D. thesis submitted to the Faculty of the Graduate School, University of Minnesota. Dr. Jerome Moss, Jr. was the major advisor.

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related to the occupational choice of the son. Another study (Uzzell, 1961) found a definite relationship between the occupational choices of black male high school seniors and their knowledge of adults who were working in that occupation. Vontress (1968) discussed the apathy of socio-economically disadvantaged black parents and children toward education.

Wylie (1963) found that when she held age and intelligence constant, students from low socio-economic homes and black students have a more modest self-estimate of their ability to do school work than do other students. Another study (Leshan, 1952) indicated that students from lower-class homes do not look to the future as do other students. Other studies (Schwarzweller, 1960; Hind-lang, 1970; Rosen, 1959) supported the hypothesis that the culture in which the child is reared affects his educational and occupational aspirations and expectations.

Keller and Zavalloni (1964) presented a concept that they called relative distance. This concept says that some socio-economic groups are farther from some goals than are other socio-economic groups. For example, the relative distance (including values, attitudes, opinions, self-concept, etc.) from high school to college is greater for the black ghetto student than for the white non-ghetto student.

Siegel (1965-1966) found that when the years of education and region of the U.S. are held constant, blacks do earn considerably less than whites, and as the years of education increase, the difference in annual dollars earned also increases. Studies (Siegel, 1965-1966; Littig, 1968; Landis and Scorpitti, 1965; Brazziel, 1961; Henderson, 1966, 1967) showed that blacks do perceive themselves as having fewer employment opportunities than whites have and that consequently blacks
usually expect to enter a lower level occupation than whites. Littig's (1968) study indicated that working-class black college students having strong achievement motivation are more likely than other blacks to attempt to get into occupations which have been traditionally closed to blacks. After conducting two MDTA programs in a black ghetto, Ekberg and Vry (1968) concluded that the black ghetto student expects to fail, and probably wants to fail, in the white man's world.

Personal Interviews

The investigator conducted personal interviews in the Minneapolis-St. Paul area over a period of approximately four months—mid-July to mid-November, 1970. The interviews were undertaken so that hypotheses could be developed about why so few black male high school graduates attend post-high school vocational schools. Although it is difficult to determine the respective proportions that the literature review and personal interviews contributed to the hypotheses development, the investigator did rely very heavily on the personal interviews. As an estimate, the personal interviews probably contributed 75%, with the review of literature contributing 25%.

DESIGNING THE STUDY

Hypotheses

As a result of the literature review and interview procedure, the investigator formulated 22 major hypotheses and 22 minor hypotheses.

The major hypotheses are as follows:

(1-11) There is a difference between the black and white races when male high school seniors are grouped according to
race and what they expect to be doing next year (attending college, attending a post-high area vocational school, or having a full-time job) in (1) their perception of labor unions, (2) their perception of area vocational schools, (3) their perception of blue collar work, (4) the extent to which they hold "white middle-class" values, (5) their level of self-confidence as it relates to their ability to succeed in school and in the world-of-work, (6) their perception of how their parents perceive education, (7) their perception of how their friends perceive education, (8) the extent to which they concur with the concept "education is good," (9) the extent to which they concur with the concept "teachers are good," (10) the extent to which they concur with the statement "school counselors are good," and (11) their level of knowledge about post-high area vocational schools.

The minor hypotheses are as follows:

(1a-3a) Within each race, black and white, there is a difference between high school seniors who expect to attend a post-high area vocational school next year and those who do not expect to attend a post-high area vocational school next year in (1a) their perception of labor unions, (2a) their perception of post-high area vocational schools, and (3a) their perception of blue collar work.

(4a-10a) Within each race, black and white, there is a difference between high school senior males who expect to attend school next year and those who do not expect to attend
school next year in (4a) the extent to which they hold "white middle-class" values, (5a) their level of self-confidence as it relates to their ability to succeed in school and the world-of-work, (6a) their perception of how their parents perceive education, (7a) their perception of how their friends perceive education, (8a) the extent to which they concur with the concept "education is good," (9a) the extent to which they concur with the concept "teachers are good," (10a) the extent to which they concur with the concept "school counselors are good."

Within each race, black and white, there is a difference between high school senior males who expect to attend a post-high area vocational school next year and those who expect to have a full-time job in their level of knowledge about area vocational schools.

(12-22 and 12a-22a) [Hypotheses 1 through 11 and 1a through 11a were developed to test differences when students are grouped according to what they expect to be doing next year. The same set of hypotheses will be tested when students are grouped according to what they would like to be doing next year.]

The Instrument

To test the hypotheses, it was necessary to develop an instrument which would permit the data to be gathered. First it was necessary to determine what each student expected to be doing the next year (attending college, attending an area vocational school, having a full-time job or
other) and also what each student would like to have been doing next year. This part of the instrument is presented in Table 1.

**TABLE 1**

STATEMENTS DESIGNED TO GATHER DATA ON WHAT THE STUDENT WOULD LIKE TO BE DOING NEXT YEAR AND ON WHAT THE STUDENT EXPECTS TO BE DOING NEXT YEAR.

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
</table>

If you could do anything you wanted to do, what would you **really like** to be doing a year from now? (please, be honest)

- [ ] Attending a university or 4-year college
- [ ] Attending a junior college
- [ ] Attending an area vocational school
- [ ] Having a full-time job
- [ ] Being in the U.S. Armed Forces
- [ ] Other, please list __________________

What do you **really expect** that you will be doing a year from now?

- [ ] Attending a university or 4-year college
- [ ] Attending a junior college
- [ ] Attending an area vocational school
- [ ] Having a full-time job
- [ ] Being in the U.S. Armed Forces
- [ ] Other, please list __________________
Eleven other different kinds of information were also needed to test the hypotheses. After reviewing the types of instruments which could be used to obtain the eleven different kinds of information, the investigator decided to collect ten kinds of information using a Likert-type instrument having four alternative responses (strongly agree, agree, disagree, strongly disagree).

In the ten Likert scales approximately half of the item statements are positive (i.e., I like school) and half of the item statements are negative (i.e., Education is of little value). For each positive item statement, 4 points were given for each strongly agree (SA) response, 3 points for agree (A), 2 points for disagree (D), and 1 point for strongly disagree (SD). For negative item statements the scoring was reversed. For each of the ten scales, each subject's score was the total points earned on the items in that scale.

It was decided to test the hypotheses concerning the "student's knowledge of area vocational schools" using a dichotomized response choice--true or false. The scoring for these items was as follows: no point for each incorrect response and one point for each correct response.

In summary, each subject had eleven total scores--one for each of the eleven scales. These scale scores were then used to test the hypotheses.

**Building a Pool of Items**

A pool of sixteen to thirty-six items was developed for each of the eleven scales. The investigator depended heavily upon the personal interviews when developing the items; the literature review also contributed substantially to the "key words" on which items were built.
Content Validity

Each of the 259 items developed was typed on a 3" by 5" card. Each of the eleven hypothesis areas, i.e. perception of labor unions, was typed on a 5" by 8" card. Ten professional people actively involved in vocational education were asked by the investigator to participate in the test for content validity. After the project director put the 259 item cards in random order, each participating educator was asked to sort the 259 item cards according to the eleven hypotheses cards and was told that if he felt that any of the items did not fit any of the eleven hypotheses cards that these items should be put into a separate pile. The criterion for acceptance of each item was that a minimum of nine of the ten participating educators sort the items into the correct category (scale). Twelve items did not meet the criterion and were removed.

Pilot Testing the Instrument

The 247 remaining items, with the exception of sixteen items which tested "knowledge of area vocational schools," were placed in random order. Because chance might group some items testing the same hypothesis close together, the investigator checked to see if such groupings occurred. Whenever there were less than four or five items between two items which seemed to be asking something quite similar, one of the items was moved to another position. All items measuring students' knowledge of area vocational schools were put at the end of the instrument.

A total of thirty-one students completed the instrument for the pilot test. After the pilot test was concluded it was decided to eliminate the hypotheses dealing with the student's level of self-confidence.
as it relates to his perception of his ability to succeed in school and in the world-of-work (hypothesis 5, 5a, 16 and 16a). When the investigator asked the students in the pilot test to comment on the instrument, several stated that they felt some items were rather personal (these items were the self-confidence items). School administrators also felt that some students might be sensitive to the same items. While the investigator did feel that the hypotheses concerning self-confidence were important, he did not want to take a chance that these items would influence students' responses to the other items. Consequently, the items pertaining to these hypotheses were eliminated prior to the administration of the final instrument.

**Item Analysis and Reliability**

The University of Minnesota Statistical Program 500 (UMST 500), with the Control Data Corporation 6600 computer, was used for the item analyses (Anderson, 1969). This program provides correlation coefficients between each item and every other item in the same scale, in addition to the correlation coefficient between each item and the total score for its scale. Those items having the lowest correlation with their total scale scores were eliminated first. If two items tended to be similar, the one having the lower correlation coefficient with the total scale score was eliminated.

Ferguson (1966, p. 377) places the methods of determining reliability into four categories: (1) test-retest, (2) parallel-forms, (3) split-half, (4) internal consistency. Hoyt's method (Hoyt, 1941) of measuring internal consistency was selected.

Of the original 259 item pool, twelve were removed as a result of the test for face validity, and sixty-one were removed as the result of
the item analysis. Also, the entire self-confidence scale was removed. Of the 259 items originally developed, 155 were left. These 155 items, less the sixteen items on the "knowledge of area vocational schools" scale, were then placed in random order to build the instrument.

Internal consistency when based on the 77 students in the final sample ranged from a low of .60 for the scale measuring the students' knowledge about area vocational schools to a high of .90 for the scale measuring the students' level of agreement with the concept "school counselors are good." An example of the scales, "the scale measuring the students' perception of area vocational schools," is in the appendix.

DATA COLLECTION

The data was gathered in two schools in St. Paul, Minnesota, in late spring, 1971. It was decided to collect the data in two phases. In Phase I, a single sheet questionnaire was administered to all senior boys in the two schools requesting (a) the student's name, (b) what he would really like to be doing next year, and (c) what he really expects to be doing next year (see Table 1).

Using the students' response to the statement: "What do you really expect that you will be doing a year from now?" students were then grouped according to whether they expected to be (a) attending a university, 4-year college, or junior college, (b) attending a post-high area vocational school or similar institution, or (c) having a full-time job. Those who indicated that they expected to enter the U.S. Armed Forces or gave a response such as "travel for a year" were put in a fourth category and were not included in the sample for Phase II. It was felt that these students were postponing for one or several years the decision of whether to attend school or to get a full-time job.
Those who responded in the "other" category with a statement which indicated one of the above three categories, i.e., "have my own repair shop," were placed in the appropriate category.

Those remaining in the fourth group--U.S. Armed Forces and "other"--were set aside, which left the following six groups:

**Black**
- College
- Vocational School
- Job

**White**
- College
- Vocational School
- Job

Seven students were randomly selected from each of six groups. Because of normal, expected absenteeism, one substitute was also randomly selected from each group.

The same sampling procedure was then repeated for the question, "If you could do anything you wanted to do, what would you really like to be doing a year from now?" Thus, two samples were drawn: one from a population based upon what the student expected to be doing, and the other from a population based upon what the student would like to be doing (each sample consisted of forty-two students). Because the first random sampling procedure (when the parameters were race and what the students expected to be doing next year) was independent of the second random sampling procedure (when the parameters were race and what the students would like to be doing next year), seven students were selected for both random samples.

For Phase I, the population was all the senior male students in the two schools. For Phase II, the population was all the senior male students in the two schools with the exception of those students who expected to (or would have liked to) enter the U.S. Armed Forces or
travel for the year following their high school graduation. Prior to
the administration of the final questionnaire, Phase II, a school coun-
selor notified the selected students to report to a designated room at
a specific time. The investigator administered Phase II questionnaire.
After the students arrived in the designated room, the investigator
explained that he was interested in knowing how they, as students, felt
about a variety of things and that they should be completely honest as
all of their responses would be confidential.

Students were told that it was very important for them to respond
to every question and that if they had difficulty answering some items
that they should make the best possible guess. Most students completed
the questionnaire within forty-five minutes; a few spent slightly over
one hour. As the students were nearing completion of the instrument,
the investigator announced that each one should make sure that he had
responded to all the statements before he handed in the questionnaire.
Also, as the students handed in the questionnaire, the investigator
quickly checked to see if they had responded to all items.
Analysis of variance, using orthogonal contrasts, was the statistical technique used. Table 2 presents a summary of the probability values for each of the hypotheses.

**TABLE 2**

**SUMMARY TABLE OF THE PROBABILITY VALUES FOR THE HYPOTHESES WHEN USING ANALYSIS OF VARIANCE WITH ORTHOGONAL CONTRASTS**

<table>
<thead>
<tr>
<th>Perception of labor unions</th>
<th>Perception of area vocational schools</th>
<th>Perception of blue collar work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black vs. white</td>
<td>Vocational school vs. college and job (black)</td>
<td>Vocational school vs. college and job (white)</td>
</tr>
<tr>
<td>Black vs. white</td>
<td>Vocational school vs. college and job (white)</td>
<td></td>
</tr>
<tr>
<td>.772</td>
<td>.143</td>
<td>.833</td>
</tr>
<tr>
<td>.833</td>
<td>.557</td>
<td>.293</td>
</tr>
<tr>
<td>.764</td>
<td>.002**</td>
<td>.539</td>
</tr>
<tr>
<td>.002**</td>
<td>.050*</td>
<td>.402</td>
</tr>
<tr>
<td>.012*</td>
<td>.012*</td>
<td>.011*</td>
</tr>
<tr>
<td>.009**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.153</td>
<td>.280</td>
<td>.280</td>
</tr>
</tbody>
</table>

* (table continued on next page)
<table>
<thead>
<tr>
<th>Middle-class values</th>
<th>Vocational school and college vs. job (black)</th>
<th>Vocational school and college vs. job (white)</th>
<th>Vocational school and college vs. job (white)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black vs. white</td>
<td>.142</td>
<td>.041*</td>
<td>.042*</td>
</tr>
<tr>
<td>Reinforcement from parents</td>
<td>.285</td>
<td>.002**</td>
<td>.325</td>
</tr>
<tr>
<td>Reinforcement from friends</td>
<td>.123</td>
<td>.008**</td>
<td>.496</td>
</tr>
<tr>
<td>Concept &quot;education is good&quot;</td>
<td>.163</td>
<td>.0009**</td>
<td>.689</td>
</tr>
<tr>
<td>Concept &quot;teachers are good&quot;</td>
<td>.961</td>
<td>.115</td>
<td>1.000</td>
</tr>
<tr>
<td>Concept &quot;school counselors are good&quot;</td>
<td>.724</td>
<td>.165</td>
<td>1.000</td>
</tr>
</tbody>
</table>

(Table continued on next page)
<table>
<thead>
<tr>
<th>Knowledge of area vocational schools</th>
<th>Black vs. white</th>
<th>Vocational school vs. Vocational school (black)</th>
<th>Vocational school vs. Vocational school (white)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When students are randomly selected according to what they expect to be doing next year.</td>
<td>.042*</td>
<td>.019*</td>
<td>.346</td>
</tr>
<tr>
<td>When students are randomly selected according to what they would like to be doing next year.</td>
<td>.013*</td>
<td>1.000</td>
<td>.315</td>
</tr>
</tbody>
</table>

* Indicates statistically significant at .05 level.

** Indicates statistically significant at .01 level.

[Text continued on next page.]
When limiting the discussion to the statistically significant (.05 level) results when the students were randomly selected within categories of race and what they expected to be doing the next year, only two differences between race were found: the white groups scored differently (higher) than the black groups on the scales measuring (a) perception of blue collar work and (b) knowledge about area vocational schools. Seven of the ten sets of null hypotheses testing for differences within race revealed that either one or both of the two contrasts were significant (.05): (a) within each of the two races students who expected to be attending an area vocational school scored differently (higher) than students who did not expect to be attending an area vocational school on the scale measuring perception of area vocational schools; (b) within each of two races, students who expected to be attending an area vocational school scored differently (higher) than students who did not expect to be attending an area vocational school on the scale measuring their perception of blue collar work; (c) within the white race, students who expected to be attending school (either college or vocational school) scored differently (higher) than students who expected to have a full-time job on the scale measuring white middle-class values (the direction of difference was the same for blacks); (d) within each of the races, students who expected to be attending school (either college or vocational school) scored differently (higher) than students who expected to have a full-time job on the scale measuring perception of reinforcement from their parents on school and educational activities; (e) within the white race, students who expected to attend school (college or vocational school) scored differently (higher) than students who expected to have a full-time job on the scale measuring perception of reinforcement from
friends on school and educational activities (the direction of difference was the same for blacks); (f) within the white race, students who expected to attend school (college or vocational school) scored differently (higher) than students who expected to have a full-time job on the scale measuring the concept "education is good" (the direction of difference was the same for blacks); (g) within the black race, students who expected to be attending an area vocational school scored differently (higher) than students who expected to have a full-time job on the scale measuring their knowledge about area vocational schools (the direction of difference was the same for whites).

When the students were randomly selected within the categories of race and what they would like to do next year, only two differences between race were found to be statistically significant (.05): the white groups scored differently (higher) than the black groups on the scales measuring (a) white middle class values and (b) knowledge about area vocational schools. Two of the ten sets of null hypotheses making contrasts within each race were found to yield statistically significant (.05) differences: (a) within the white race, students who would like to attend an area vocational school scored differently (higher) than students who would like to attend college or have a full-time job on the scale measuring perception of area vocational schools (the direction of difference was the same for blacks); (b) within the white race, students who would like to be attending school the next year scored differently (higher) than students who would like to have a full-time job on the scale measuring perception of reinforcement from friends.

The study revealed a strong probability that two reasons why so few black high school graduates attend post high school area vocational
schools are: (a) black male high school seniors do not perceive "blue collar" employment to be as "worthy or dignified" as white male high school seniors do, and (b) black male high school seniors have less knowledge about post high school area vocational schools than white male high school seniors have.

RECOMMENDATIONS

Recommendations for practice are that a program be initiated whereby (a) black male students would come to perceive "blue collar" work as having more "worth and dignity" than they now have, and (b) black male students would possess more knowledge about area vocational schools. (This program could be considered successful only if it results in an improvement of the socio-economic position of the black race; it must not be used as a way of "keeping or putting" blacks in blue collar positions.) It is also suggested that similar research be conducted with other socio-economic groups including American Indians, Mexican-Americans, and economically depressed whites. It is also suggested that further research be conducted on students' attitude toward blue collar work as this might be a very significant factor why so few black students, as well as other minority group students, enroll in post high school area vocational schools.
REFERENCES


APPENDIX

Scale Used to Measure Students' Perception of Area Vocational Schools
(hypotheses 2, 2a, 13, and 13a)

Today, a young man can get a good education by attending an area vocational school.

Only students who can't get into a good college or university go to an area vocational school.

We need area vocational schools.

If you want people to respect you, you must go to a university or college rather than to an area vocational school.

I would rather graduate from a college than from an area vocational school.

Students who attend area vocational schools are respected by other people in the community.

A person who has graduated from a college has more dignity than one who has graduated from an area vocational school.

Area vocational schools are first-class schools.

There are many intelligent students going to area vocational schools.

Going to college would give a student more dignity than going to an area vocational school.

I would like to go to an area vocational school.

Area vocational schools are for people who cannot "think."

If you really want to be "somebody," you have to go to a university or college.

Area vocational schools are good schools.

Area vocational schools are as important as colleges and universities.