DOCUMENT RESUME

ED 037 298 RC 004 188

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TITLE	Vocational and Educational Goals of Rural Youth in Virginia.
INSTITUTION	Virginia Polytechnic Inst., Blacksburg. Agricultural Experiment Station.
REPORT NO	Bull-568
PUB DATE	[66]
NOTE	28p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$1.50
DESCRIPTORS	*Academic Aspiration, After School Activities, Family Attitudes, Living Standards, *Occupational Aspiration, Occupational Choice, *Parent Attitudes, *Rural Youth, Secondary School Students, Sex Differences, Socioeconomic Influences, *Student Attitudes
IDENTIFIERS	Kuder Vocational Preference Record, Virginia

ABSTRACT

The purposes of this study were (1) to compare educational and vocational goals of rural youth with those of their parents for these youth and (2) to determine the relationship of these goals to selected background factors. Three measures were used in the study: a questionnaire about educational and vocational goals, the Hieronymus Scale for measuring attitudes toward education, and the Kuder Vocational Preference Record. The measures were administered to 285 ninth- and tenth-grade students and their parents in rural Virginia. Analysis of the questionnaire indicated that level-of-living was the main factor influencing educational plans for both students and their parents. The Hieronymus Scale indicated that girls, non-members of rural youth organizations, and students from the 2 upper level-of-living groups value education more highly than do boys, members of youth organizations, and students from the low level-of-living group. The Kuder Vocational Preference Record showed that sex was the factor most often related to vocational interests, although some relationships were noted between level-of-living and vocational choice. (TL)

VOCATIONAL AND EDUCATIONAL GOALS OF RURAL YOUTH IN VIRGINIA

A [illegible] Experiment Station
[illegible]
Bulletin 556
Blacksburg, Virginia

FOREWORD

This study, "Educational and Vocational Goals of Rural Youth in Virginia", was one of the contributing projects to the Southern Regional Project S-48, "Educational and Vocational Goals of Rural Youth in the South". In addition to Virginia, Experiment Stations in Kentucky, North Carolina, and Tennessee participated.

Appreciation is expressed to the Regional Technical Committee of the S-48 Project for developing state and regional procedures used in this study; to the statisticians who assisted with the statistical design and analysis: Dr. Clyde Kramer at Virginia Polytechnic Institute and Dr. Charles Proctor, North Carolina State University at Raleigh; Mrs. Shirley Farrier and Miss Kunda Sirur, former research assistants, for their work in the initial stages of research; Dr. George Blume who criticized the original manuscript and wrote the section on implications; and Dr. Wilson B. Bell, Dr. T. J. Horne, Dr. W. E. Skelton, and Dr. Coyt T. Wilson, all of whom read the original manuscript and made valuable suggestions included in the final draft of the manuscript.

Above all, special thanks are due to the school teachers and administrators, boys and girls, and parents whose participation made this study possible.

[1966]

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SUMMARY

A questionnaire pertaining to educational and vocational goals, the Hieronymus Scale for measuring attitudes toward education, and the Kuder Profile Record—Vocational were administered to 285 rural Virginia ninth and tenth grade students, their fathers, and their mothers. Results, as related to students' sex, level of living, place of residence, family size, and membership or non-membership in certain youth organizations (4-H Club, Future Farmers of America, and Future Homemakers of America) were analyzed statistically.

EDUCATIONAL AND VOCATIONAL QUESTIONNAIRE

Level of living was the main factor influencing educational plans. Generally, the higher the level of living, the longer the length of schooling planned by students and by parents for them. More parents than students expected the students to continue education beyond the high school level.

Additionally, the higher the level of living, the greater the amount of financial assistance with schooling students expected and the more often they felt strongly encouraged to continue their educations. Except for low level-of-living girls, children overestimated the amount of financial assistance parents planned to provide. Children were more likely to discuss educational plans with mothers than with fathers.

For boys and their mothers only, non-members of the rural youth organizations planned longer schooling than did members. Additionally, more boys who were members of the 4-H Club or Future Farmers of America considered the study of agriculture important and desired and expected to enter farming as a profession.

As would be expected, more farm boys than non-farm boys desired and expected to be farmers. Boys had similar desired and expected occupations. Fewer girls expected to enter professions than wanted to do so, while more expected to be full-time homemakers than desired to be. Parents were more ambitious than sons concerning desired occupations but had similar occupational expectations. Parents had higher occupational desires and lower occupational expectations than daughters.

In general, more mothers of small families wanted children to take various types of training before working; more mothers of large families wanted daughters to work immediately after high school graduation.

HIERONYMUS SCALE FOR MEASURING EDUCATIONAL ATTITUDES

Girls, non-members of rural youth organizations, and students from the 2 upper level-of-living groups valued education more highly than did boys, members of the youth organizations, and students from the low level-of-living group.

From comparison with results obtained from similar studies conducted in Kentucky, North Carolina, and Tennessee, Virginia students had an average score significantly lower than students from Kentucky and North Carolina, but similar to the average score of students from Tennessee.

KUDER VOCATIONAL PREFERENCE RECORD

Sex was the factor most often related to vocational interests. Boys showed greater preference than girls for outdoor, mechanical, computational, and scientific areas. Girls more often preferred artistic, literary, musical, social science, and clerical areas. Both sexes scored similarly in the persuasive area.

Members of the youth groups preferred the outdoor and mechanical areas more than did non-members, who showed more preference for the literary and computational fields.

Middle and high level-of-living students showed more preference for the scientific area than did low-level students. Level of living was also related to students' preferences for the persuasive and social science areas.

Students living on farms showed greater preference for the outdoor interest area than did non-farm students.

Children from large families showed more preference for the clerical area than did those from small families.

In every interest area except 2, there was a significant difference between scores of children and scores of parents because of sex of the child. In general, fathers agreed more closely with sons and mothers agreed more closely with daughters.

Sex of the child was the main factor significantly related to parents' scores although a few other main effects showed occasional significance. There was a scattering of significant items for children's and parents' scores caused by 2-way interactions of factors, although there was no discernible pattern to their occurrences.

Educational and Vocational Goals of Rural Youth In Virginia

by

Carol Bishop, Blanche Davis, Laura Jane Harper, and Virle C. Payne

INTRODUCTION

Two of the most important decisions of a lifetime are often made while a person is in high school. These are choice of a vocation and of the education needed to prepare adequately for that vocation. Therefore it seems important to learn more about the factors which influence the educational and vocational goals of youth today.

PURPOSES OF THIS STUDY

The purposes of this study were to (1) describe similarities and differences in the educational and vocational goals of rural youth and of their parents for them and (2) determine the relationship of these goals to certain factors, namely: (a) membership or non-membership in the 4-H Club, Future Farmers of America, or Future Homemakers of America; (b) sex; (c) farm or non-farm residence; (d) level of living; and (e) family size.

FINDINGS OF RELATED STUDIES

Various investigators who researched elements contributing to educational and occupational goals of youth have pointed out the influence of factors such as school, teachers, friends, and vocational guidance, as well as the home, family, and parents. Results of some of these studies substantiate a statement made at the 1960 White House Conference on Children and Youth: "Parents, despite all the social changes in this country, continue to be a chief source of a child's personal goals, attitudes, and values"(1). The importance of parental influence was also emphasized in studies by Little(2) and Peters(3). The latter reported that, after parents, the next 3 important factors in order were a friend, a professional acquaintance, and a relative other than parent.

A study of 485 California high school students indicated that the most influential factors affecting young peoples' vocational preferences were cultural atmosphere of the home, parental background, and parental example and training(4).

Berdie(5) found that, other than financial resources, primary influences were related to home and family background. Cultural status (an example was ownership of many books and magazines) was slightly but consistently more important than economic status. Ad-

ditionally, metropolitan youth more often planned to attend college than rural youth.

Burchinal(6), from a study made in the North Central region, reported that fathers exerted more influence on occupational plans of boys intending to farm, while mothers or school counselors had more influence on boys not planning to farm.

In a study made of Georgia youth(7), parents were reported as having the greatest influence on occupational choices, with everyday contacts having secondary influence. At all socio-economic levels, children's expectations were on a higher level than the father's occupation.

Uzell(8) found that youths' occupational choices were influenced by knowledge of occupational models, mass media, and persons in other occupations. In some small towns, a superior student may not know a model on the occupational level he is capable of achieving.

A nationwide study(9) and a study by Coster(10) both found that youth from high-income families are more likely to plan to attend college.

From his research in this area, Lipset(11) has advanced the theory that the larger the community in which a person spends his teens, the more likely he is to be upward-mobile. If this is true, rural youth enter the urban labor market under a handicap.

Several studies have been reported in which Lipset's theory has been tested. Middleton and Grigg(12) from a study conducted in Florida indicated that, with the intelligence factor controlled, urban boys had higher educational and occupational aspirations than rural boys. Girls from similar backgrounds differed only in educational aspirations. Haller and Sewell(13) found lower educational aspirations and similar occupational aspirations for rural boys compared to urban boys. No differences were noted for girls.

In reports of 3 other studies, Haller(14-16) has pointed out the generally lower educational plans of rural boys and the relationship between these plans and the actual vocational achievements. Additionally, Nam and Cowhig(17), from a national survey, found a higher proportion of urban than rural youth enrolled in college.

Results of a Washington State survey(18) indicated that family size and the child's relative position in the family may influence occupational choices.

The different studies reported indicate that many factors influence a child's choice of vocation and the level of education he desires. Further study is needed to clarify the relative importance of these factors, so that the channels through which today's young people can be effectively encouraged to continue their educations will be known.

PROCEDURE

Data for this study of the vocational and educational goals of rural youth in Virginia were collected in accordance with procedures established by a regional research committee, in which the Experiment Stations of Kentucky, Tennessee, and North Carolina were also participants. A highly stratified classification structure consisting of

48 sub-groups served as the basis for the sample selection. (See the Appendix for details.)

The 285 rural youth making up the sample were selected through use of student information sheets which classified the students according to family type. These students were selected at random from a population with the following characteristics: (a) rural residence; (b) enrollment in ninth or tenth grade of county school systems which were not located within the corporate limits of cities with 50,000 or more population and which had chapters of the 4-H Club, Future Farmers of America, and Future Homemakers of America; and (c) residence in same dwelling with both parents. The sample was determined by criteria for selection of youth rather than of parents.

The variables used to determine sub-groups were sex, membership or non-membership, level of living, place of residence, family size and area of the state.

Sex referred to that of the student—boy or girl. A background of at least one semester in the Future Farmers of America or Future Homemakers of America or one year in the 4-H Club was required of students classified as members. Of the 72 boys classified as members, 15% were members of both the FFA and 4-H Club, 3% were members of the 4-H Club only, and 82% were members of the FFA only. Of the 71 girls included in the sample of members, 24% were members of both the FHA and 4-H Club, 11% were members of the 4-H Club only, and 65% were members of the FHA only. Level of living was interpreted as high, middle, or low, according to answers given on an adaptation of the Cornell Level of Living Scale. (See Appendix for details.)

Place of residence referred to farm or non-farm home location. A small family was defined as one with 1 or 2 children, a large family as one with 3 or more children. Areas of the state were determined by soil regions. In Virginia, the areas were designated Tidewater, Piedmont, and Appalachian. Equal numbers of subjects were selected from each of the 3 designated areas of the state.

Interviewers administered tests and questionnaires to the selected youths at school. These questionnaires measured the students' attitudes toward an education, their educational and occupational plans, and their vocational preferences. Identical questionnaires were administered to the students' fathers and mothers in their homes. Parents were asked to answer as they hoped their children had answered.

STATISTICAL TREATMENT

The statistical design for the regional project was planned at the Institute of Statistics, North Carolina State University at Raleigh, and much of the data was analyzed there.

Three statistical methods were used to analyze the information obtained in 1960 and 1961 from 285 rural Virginia ninth and tenth grade students and their parents.

The main topics of information from the questionnaires relating to academic and vocational goals were analyzed by the standard Chi

Square test. Significance levels of individual questions within the main topics were detected by means of the formula:

$$\frac{\text{Row } X^2 \text{ contribution} \times 1 \text{ (row frequency)}^*}{\text{(total frequency—row frequency)}.}$$

The Chi Square value thus extracted has K-1 degrees of freedom.

Analyses of variance (F ratios) were determined for data from the Hieronymus Educational Scale and the Kuder Preference Record. For the purpose of analysis of variance determination, there were 144 observations each for students, fathers, and mothers, each observation representing the mean of the 2 scores falling in each cell. The Duncan New Multiple Range Test(19-20) was used to rank the 4 participating states in regard to scores obtained on the Hieronymus scale for measuring attitudes toward education.

For exceptions and additional details on statistical treatment, see the Appendix.

RESULTS AND INTERPRETATION

Educational Aspirations

Level of living was the most commonly significant factor related to educational plans, although membership or non-membership and family size showed occasional significance. In Table 1 is shown the Chi Square significance levels obtained by analyzing these various relationships. Only those factors showing significance are discussed in detail. Certain tables of non-statistical comparison are included in the Appendix.

Planned Length of Schooling

Expected length of schooling was not influenced significantly by sex of the child. In other words, boys and girls expected to continue in school for approximately the same length of time.

The relationship between expected length of schooling and boys' membership or non-membership in the Future Farmers of America or 4-H Club is presented in Table 2. More members than non-members expected to terminate their educations before or at high school graduation. Although these youth organizations endeavor to encourage interest in education, only 25% of the boy members in this sample intended to enter college, compared to 47% of the non-members. Additionally, 14% of the non-members and none of the members intended to pursue graduate study after college. We raise this question: What can these groups do to encourage and strengthen interest in education among rural boys?

Fathers of members and fathers of non-members had similar educational expectations for their sons. On the whole, mothers of members had lower educational aspirations for their sons than did mothers of non-members.

Membership or non-membership of the 141 Virginia girls in the sample did not significantly influence their planned length of schooling, nor that of their parents for them.

*Personal correspondence from Dr. Charles Proctor, consulting statistician.

Table 1. Educational Plans of 285 Rural Virginia Students and Their Parents (X^2 significance levels)

	df	Variable	Boy	Father of Boy	Mother of Boy	Girl	Father of Girl	Mother of Girl
Planned length of schooling	5	Membership	.01	.....	.05	.....	.....	.....
	10	Level of living	.001	.001	.05	.001	.001	.001
	5	Place of residence	.....	.....	.....	.....	.....	.....
	5	Family size	.....	.....	.....	.....	.....	.....
Choice of high school subjects	9	Membership	.001	.....	.....	.....	.....	.....
	18	Level of living	.....	.....	.....	.....	.....	.....
	9	Place of residence	.....	.....	.....	.....	.....	.....
	9	Family size	.....	.....	.....	.....	.....	.....
Non-college plans	5	Membership	.....	.....	.....	.....	.....	.....
	10	Level of living	.....	.....	.....	.....	.....	.....
	5	Place of residence	.....	.....	.....	.....	.....	.....
	5	Family size	.....	.....	.05	.....	.....	.05
Encouragement by father	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.05	.....	.....	.05	.....	.....
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.....	.....	.....	.....	.....	.....
Encouragement by mother	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.....	.....	.....	.....	.....	.05
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.....	.....	.....	.....	.....	.....
Financial help expected with schooling	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.001	.05	.001	.001	.001	.01
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.....	.....	.....	.....	.....	.....

Approximately 20% of all the parents who expected their children to go to college also expected them to leave college before graduation, while only 6% of the students planning to enter college expected to drop out prior to graduation. However, more parents than students expected continued education beyond high school.

The relationship between level of living and expected length of schooling can be summarized thus: the higher the level of living, the longer the boy or girl expected to stay in school and the longer parents expected the child to stay in school. The striking degree to which this is true is shown in Table 3 for boys and Table 4 for girls.

Part of this may be caused by less available money in the low level-of-living group. The fact that level of living is a significant factor in expected financial assistance with schooling is shown in Table 1. Certainly, however, each individual should be encouraged to continue schooling as far as his own intellectual ability permits. Perhaps members of the low level-of-living group have not been made fully aware of the importance of education and of availability of various loans to financially poor but scholastically able students.

Girls in the high and low level-of-living groups were more ambi-

Table 2. Length of Schooling Planned by 144 Virginia Boys and by Their Parents for Them, as Related to Their Membership or Non-Membership in Certain Organizations

(in percentage of the number in each column)

Planned length of schooling	df	Boys		Fathers		Mothers	
		72 Members	72 Non-M.	72 Members	72 Non-M.	72 Members	72 Non-M.
This will probably be the last year	1	0	1.4	0	0	0	0
Another year or 2	1	2.8	2.8	2.3	0	0	0
Finish high school only	1	72.2**	48.6	56.9	48.6	56.9	50.0
Start college but probably won't finish	1	4.2	9.7	15.3	18.0	27.8*	13.9
Graduate from 4-year college	1	20.8	23.6	20.8	25.0	13.9	25.0
Professional study after college	1	0**	13.9	4.2	8.3	1.4*	11.1

df = 5
X^2 for boys = 16.05**
X^2 for fathers = 3.91
X^2 for mothers = 11.39*

X^2 significance levels
* = 5%
** = 1%
*** = 0.1%

Table 3. Length of Schooling Planned by 144 Virginia Boys and by Their Parents for Them as Related to Level of Living

(in percentage of the number in each column)

Length of Schooling	df	Boys			Fathers			Mothers		
		48 High	48 Med	48 Low	48 High	48 Med	48 Low	48 High	48 Med	48 Low
This will probably be the last year	2	0	0	2.1	0	0	0	0	0	0
Another year or 2	2	6.2	0	2.1	0	0	4.2	0	0	0
Finish high school only	2	33.3***	60.4	87.5	35.4***	43.8	79.2	39.6**	45.8	75.0
Start college but probably won't finish	2	8.3	10.4	2.1	10.4	22.9	16.7	18.8	20.8	22.9
Graduate from 4-year college	2	43.8***	16.7	6.2	41.7***	27.1	0	31.2***	25 0	2.1
Professional study after college	2	8.3*	12.5	0	12.5*	6.2	0	10.4	8.3	0

df = 10
X^2 boys = 41.54***
X^2 fathers = 40.79***
X^2 mothers = 22.92*

X^2 significance levels
* = 5%
** = 1%
*** = 0.1%

Table 4. Length of Schooling Planned by 141 Virginia Girls and by Their Parents for Them, as Related to Level of Living
(in percentage of the number in each column)

Length of Schooling	df	Girls			Fathers			Mothers		
		48 High	48 Med	45 Low	48 High	48 Med	45 Low	48 High	48 Med	45 Low
This will probably be the last year	2	2.1	0	2.2	0	0	4.4	0	2.1	4.4
Another year or 2	2	0	2.1	6.7	0	2.1	2.2	0	0	2.2
Finish high school only	2	25.0***	68.8	73.3	18.8***	62.5	77.8	18.8***	60.4	77.8
Start college but probably won't finish	2	8.3	4.2	0	29.2	20.8	11.1	39.6**	20.8	11.1
Graduate from 4-year college	2	45.8***	18.8	11.1	47.9***	14.6	4.4	39.6***	14.6	2.2
Professional study after college	2	18.8	6.2	6.7	4.2	0	0	2.1	2.1	2.1

df = 10
X^2 for girls = 37.58***
X^2 for fathers = 51.12***
X^2 for mothers = 46.83***

X^2 significance levels
* = 5%
** = 1%
*** = 0.1%

tious than boys in these groups, but girls in the middle group were decidedly less ambitious than middle-level boys. Perhaps the wide availability of white-collar jobs in clerical and related fields holds an attraction for girls in this group.

Students' Choices of High School Subjects Important for Future

The 285 ninth and tenth graders in this study were asked to select the various high school subjects each considered important for his or her future. No limit was given as to the number of subjects a student could mark, so 1,164 answers were given.

Membership or non-membership of boys, but not of girls, was the only factor significantly related to choices of high school subjects important for the future. The actual number of students considering a subject important are recorded below.

High School Subjects	df	72 Member Boys	72 Non-Member Boys
		No.	*No.*
Agriculture	1	51***	17
Foreign language	1	7**	24

Total Category

df = 9
X^2 for boys = 30.22***
X^2 for girls = 3.18

X^2 significance levels
** = 1%
*** = 0.1%

Perhaps more non-member boys attached importance to the study of foreign languages because more of them planned to attend college.

Non-College Plans of Students and Parents

The number of boys, girls, and parents who mentioned non-college plans varied numerically with more girls than boys and more parents than students expecting continued education beyond high school.

Family size was significantly related to the non-college plans made by girls and by mothers for both boys and girls, but not to plans made by boys or fathers. These data are presented in Table 5. Significantly more girls from small families than from large families planned to take on-the-job training. Mothers of small families were more likely to want sons to take apprentice training or to enter military service and daughters to take training courses than were mothers of large families. Conversely, more mothers of large families wanted daughters to go to work immediately after leaving school.

Table 5. Non-College Plans Made by 90 Boys, 82 Girls, and by 149 Mothers for Them as Related to Family Size

(in percentages of the number in each column)

		Boys		Mothers of Boys		Girls		Mothers of Girls	
Non-college plans	df	46 Small Fam.	44 Large Fam.	38 Small Fam.	38 Large Fam.	40 Small Fam.	42 Large Fam.	35 Small Fam.	38 Large Fam.
Training courses before working	1	17.4	15.9	13.2	26.3	50.0	31.0	57.1**	26.5
Apprentice or on-the-job training	1	6.5	9.1	10.5*	0	10.0*	0	11.4	5.3
Go to work immediately	1	6.5	6.8	5.3	15.8	10.0	19.0	8.6**	34.2
Help father in his occupation	1	10.9	6.8	5.3	10.5	.....	.....	.....	.....
Marriage after leaving school	1	.....	.....	.....	.....	2.5	7.1	0	0
Get military requirement out of way	1	30.4	27.3	23.9*	10.5	.....	.....	.....	.....
Help family at home	1	.....	.....	.....	.....	0	0	2.8	5.3
Undecided	1	28.3	34.1	36.8	36.8	27.5	42.8	20.0	28.9

df = 5
X^2 for boys = 0.96
X^2 for mothers of boys = 11.60*
X^2 for girls = 9.46
X^2 for mothers of girls = 11.37*

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

PARENTAL ENCOURAGEMENT OF EDUCATION AS ESTIMATED BY CHILDREN AND PARENTS

Estimates of paternal encouragement made by boys, girls, and fathers, as related to level of living are compared in Table 6. Comparable estimates of maternal encouragement are shown in Table 7. The higher the level of living, the more likely it was that boys recognized strong encouragement from both parents. To a non-significant degree the same pattern appeared for girls and for all parents except for fathers of girls.

Highly significantly fewer middle-level fathers felt they had given daughters strong encouragement than fathers from the other 2 levels. Additionally, although low-level daughters were more likely to think that fathers and mothers wanted them to work after high school graduation, more middle-level parents actually had this desire. This pattern may be one reason why girls from the middle level-of-living group were less ambitious than their male counterparts.

Many parents felt that they had strongly encouraged their children to continue their educations, while the children did not feel they had been encouraged or thought they had never even discussed the subject with their parents. Did some parents actually not encourage their children as strongly as they remembered, or did the children just fail to listen?

Financial Assistance Expected for Education

Data presented in Table 8 for boys and Table 9 for girls indicate that the higher the level of living, the greater the amount of financial assistance a student was likely to expect. Similarly, more children and parents in the low level-of-living group felt that parents would be unable to provide financial assistance.

At all levels of living, boys overestimated the amount of financial assistance parents planned to provide. Girls at the high and middle levels likewise overestimated this factor, but girls from low level-of-living families tended to estimate more accurately or even underestimate financial assistance parents planned to offer them. These and other disparities between children's and parents' estimates of financial assistance point out the need for family discussions on this subject.

Occupational Aspirations

Table 10 is a summary of the Chi Square significance levels obtained by analyzing the relationship of occupational plans of the 285 Virginia students and their parents to (a) membership or non-membership in the rural youth groups; (b) level of living; (c) farm or non-farm residence; and (d) family size. No one factor was consistently related to occupational plans although each factor was significant for at least one category. Items found to be statistically significant are discussed more thoroughly than those showing no statistical significance.

Table 6. Estimates of Paternal Encouragement of Education by 141 Boys, 140 Girls, and 269 Fathers as Related to Level of Living

(in percentages of number of subjects in column)

Amount of Encouragement	df	Boys			Fathers of Boys			Girls			Fathers of Girls		
		48 High	47 Med	46 Low	48 High	48 Med	41 Low	48 High	48 Med	44 Low	47 High	46 Med	39 Low
Strongly urged to continue	2	54.2***	27.6	17.4	52.1	43.8	39.0	52.1*	33.3	25.0	66.0**	30.4	46.2
Some encouragement	2	22.9	38.3	34.8	31.2	39.6	26.8	31.2	25.0	34.1	21.3	37.0	28.2
Never said much about it	2	20.8	29.8	34.8	14.6	12.5	22.0	16.7	31.2	22.7	8.5	19.6	23.1
Wants child to work after high school	2	2.1	4.2	13.0	2.1	4.2	12.2	0*	10.4	13.2	4.2	13.0	2.6
Feels child should quit high school	2	0	0	0	0	0	0	0	0	0	0	0	0

df = 8
X^2 for boys = 18.73*
X^2 for fathers of boys = 7.58
X^2 for girls = 15.95*
X^2 for fathers of girls = 15.34

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

Table 7. Estimates of Maternal Encouragement of Educations by 142 Boys, 139 Girls, and 266 Mothers as Related to Level of Living

(in percentages of the number of subjects in each column)

Amount of Encouragement	df	Boys			Mother of Boys			Girls			Mother of Girls		
		48 High	48 Med	46 Low	46 High	48 Med	40 Low	48 High	48 Med	43 Low	47 High	44 Med	41 Low
Strongly urged to continue	2	66.7**	43.8	30.4	67.4	52.1	42.5	60.4	43.8	43.2	74.5	52.3	39.0
Some encouragement	2	14.6	31.2	34.8	21.7	37.5	25.0	31.2	35.4	34.1	17.0	22.7	29.3
Never said much about it	2	16.7	20.8	23.9	8.7	8.3	17.5	8.3	12.5	9.1	4.2*	9.1	22.0
Wants child to work after high school	2	2.1	4.2	10.9	2.2*	2.1	15.0	0*	8.3	13.6	2.1	15.9	9.8
Feels child should quit high school	2	0	0	0	0	0	0	0	0	0	2.1	0	0

df = 8
X^2 for boys = 14.95
X^2 for mothers of boys = 14.61
X^2 for girls = 8.56
X^2 for mothers of girls = 19.44*

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

Table 8. Estimates of Parental Financial Assistance Expected with Schooling by 141 Boys, 134 Fathers, and 133 Mothers as Related to Level of Living
(in percentages of the number of subjects in each column)

Estimated Financial Assistance	df	Boys			Fathers			Mothers		
		48 High	47 Med.	46 Low	46 High	46 Med.	42 Low	46 High	48 Med.	39 Low
Pay way completely	2	43.8	27.6	21.7	19.6*	8.7	2.4	17.4	8.3	5.1
Help a great deal	2	27.1**	29.8	4.3	28.3	15.2	16.7	36.9**	16.7	10.2
Provide some help	2	29.2	38.3	52.2	45.6	69.6	61.9	45.6	66.7	59.0
Able to give no help	2	0**	0	10.9	2.2*	4.3	16.7	0***	8.3	25.6
Family needs help from child	2	0	4.2	10.9	4.3	2.2	2.4	0	0	0

df = 8
X^2 for boys = 31.90***
X^2 for fathers = 18.57*
X^2 for mothers = 26.54***

X^2 significance levels
* = 5%
** = 1%
*** = 0.1%

Table 9. Estimates of Parental Financial Assistance Expected with Schooling by 139 Girls, 132 Fathers, and 136 Mothers as Related to Level of Living
(in percentages of the number of subjects in each column)

Estimated Financial Assistance	df	Girls			Fathers			Mothers		
		48 High	48 Med.	43 Low	46 High	47 Med.	39 Low	48 High	45 Med.	43 Low
Pay way completely	2	37.5*	27.1	11.6	23.9**	4.2	7.7	22.9	6.7	11.6
Help a great deal	2	29.2	20.8	9.3	34.8***	36.2	2.6	25.0**	24.4	2.3
Provide some help	2	31.2	43.8	39.5	39.1*	51.1	69.2	50.0	55.6	67.4
Able to give no help	2	0*	6.2	14.0	2.2*	8.5	17.9	2.1	11.1	16.3
Family needs help from child	2	2.1***	2.1	25.6	0	0	2.6	0	2.2	2.3

df = 8
X^2 for girls = 35.74***
X^2 for fathers = 31.75***
X^2 for mothers = 20.29**

X^2 significance levels
* = 5%
** = 1%
*** = 0.1%

Table 10. Occupational Plans of 285 Rural Virginia Students and Their Parents

(X^2 Significance Levels)

	df	Variable	Boy	Father of Boy	Mother of Boy	Girl	Father of Girl	Mother of Girl
Occupation desired	10	Membership	.001	.....	.....	.....	.....	.....
	20	Level of living	.....	.....	.....	.....	.....	.....
	10	Place of residence	.05	.....	.....	.....	.....	.....
	10	Family size	.....	.....	.....	.....	.....	.....
Occupation expected	10	Membership	.05	.....	.05	.....	.....	.....
	20	Level of living	.....	.....	.05	.....	.....	.....
	10	Place of residence	.....	.....	.....	.....	.....	.....
	10	Family size	.....	.....	.....	.....	.....	.....
Parental opinions of occupational plans	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.....	.....	.....	.....	.....	.....
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.05	.....	.....	.....	.....	.....
Father's opinion of careers for girls	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.....	.....	.....	.....	.....	.....
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.....	.....	.....	.....	.....	.....
Mother's opinion of careers for girls	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.....	.....	.....	.....	.....	.....
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.....	.....	.....	.05	.....	.....
Financial help expected with occupation	4	Membership	.....	.....	.....	.....	.....	.....
	8	Level of living	.....	.....	.01	.....	.....	.....
	4	Place of residence	.....	.....	.....	.....	.....	.....
	4	Family size	.01	.....	.....	.....	.....	.....

Occupations Desired by Students and by Parents for Them

As expected, more boys than girls wanted to be farmers and craftsmen, while more girls than boys preferred the clerical field. Mothers and fathers had similar occupational desires for their children. More parents than children preferred the professions for their children, while more sons preferred farming than parents desired farming for them. (See Table C, Appendix.)

Membership or non-membership in the previously mentioned rural youth organizations was highly significantly related to the occupations desired by boys but not by girls or by parents for their children. More non-member boys desired to enter professions, while more member boys desired to be farmers.

Occupation Desired	df	70 Member Boys	67 Non-Member Boys
Professional	1	28.6%***	56.7%
Farmer	1	34.3%***	10.4%

Total category	X^2 significance levels
df = 10	** = 1%
X^2 = 23.35**	*** = 0.1%

As would also be expected, more farm boys than non-farm boys wanted to be farmers. Place of residence was not related to occupational desires of girls or parents.

Occupation Desired	df	67 Farm Boys	70 Non-Farm Boys
Farmer	1	35.8%***	10.0%

Total category	X^2 significance levels
df = 10 X^2 = 18.5*	* = 5% *** = 0.1%

Although level of living was not significantly related to occupational desires as a whole, it was highly significantly related to preferences for certain classes of occupations by boys and parents.

df	Boys			Fathers			Mothers		
	High	Middle	Low	High	Middle	Low	High	Middle	Low
	(in percentages)								
	Desire for Professional Occupation								
2	60.9	45.6	20.0***	68.4	75.6	40.5***	72.1	69.8	45.9***
	Desire for Craftsman Occupation								
2	13.0	19.6	20.0	10.5	0	21.6**	7.0	9.3	10.8

Total category	X^2 significance levels
df = 20 X^2 for boys = 30.06 X^2 for fathers = 23.26 X^2 for mothers = 15.65	* = 5% ** = 1% *** = 0.1%

The higher the family's level of living, the more often boys desired to enter professions. However, at all levels many more boys desired to enter professions than expected to graduate from college (see Table 2). Perhaps the importance of education as a preparation for these occupations needs to be stressed.

Fathers at all levels were more ambitious for sons to enter professions than were the sons themselves. More middle-level fathers had this desire than did fathers from the other 2 levels. Additionally, none of the middle-level fathers wanted their sons to be craftsmen, although some fathers from each of the other levels expressed this wish. Although fathers from the middle level had the highest vocational ambitions for their sons, they did not recognize the importance of a college education in reaching this goal as often as high-level fathers did.

More mothers than sons at all levels of living wanted their sons to enter professions, but mothers from the low level were least likely to want this.

Girls from the high level-of-living group were more likely to want to enter professions than those from the other 2 levels. These high-level girls seemed to recognize the need for a college education as preparation more clearly than boys. (See Table 3.)

		Girls		
Occupation Desired	df	47 High level	47 Middle level	43 Low level
Professional	2	66.0%*	38.3%	44.2%
Operative	2	0*	0	7.0%

Total category

X^2 significance level

df = 20
X^2 for girls = 26.32

* = 5%

Girls from the high level-of-living group most often desired professional occupations, while middle-level girls least often did so. Only girls from the low level-of-living group indicated a desire to enter operative occupations. Level of living was not related to parents' vocational desires for girls.

Occupations Expected by Students and by Parents for Them

Relationship of membership or non-membership in the 3 youth groups to the choices of expected occupations by students and parents is presented in Table 11. Non-member boys and their parents more frequently expected professional occupations while member boys and their parents more frequently expected to enter farm occupations.

Parents and sons agreed closely regarding occupations actually expected. Almost as many boys expected to enter professions as desired to do so, but fewer parents expected sons to enter professions than desired them to do so. Boys seemed to be equating desires and expectations more closely than parents. Additionally, more parents than boys expected the boys to become farmers, although more boys than parents desired the occupation of farming.

More fathers of non-member girls than of member girls expected their daughters to be full-time homemakers. More mothers of non-members expected daughters to pursue a clerical occupation.

Neither girls nor parents expected all the girls who wanted to achieve professional occupations to actually do so. Although more parents than daughters expected girls to become full-time homemakers, both groups expected more girls to actually fulfill this role than had expressed such a desire.

The desired and expected occupations of girls did not correspond as closely as did those of boys. Parents and sons were in closer agreement as to expected occupations than were parents and daughters.

Table 11. Occupations Expected by 247 Virginia Students and by 431 Parents for Them as Related to Membership in Certain Organizations

(in percentages of number in each column)

		Boys		Fathers		Mothers		Girls		Fathers		Mothers	
Expected Occupation	df	60 Mem	58 Non-Mem	48 Mem	46 Non-Mem	49 Mem	52 Non-Mem	66 Mem	63 Non-Mem	58 Mem	55 Non-Mem	63 Mem	60 Non-Mem
Professional	1	25.0***	56.9	33.3*	54.3	26.5**	51.9	45.4	36.5	41.4	27.3	33.3	26.7
Farmer	1	25.0**	5.2	27.1*	10.9	38.8***	9.6	0	1.6	0	0	0	0
Manager	1	3.3	1.7	0	0	2.0	3.8	0	0	0	0	0	0
Clerical	1	3.3	5.2	6.2	6.5	8.2	5.8	36.4	39.7	25.9	23.6	17.5*	33.3
Craftsman	1	21.7	17.2	14.6	19.6	14.3	13.5	0	1.6	0	1.8	0	1.7
Sales	1	3.3	5.2	6.2	6.5	2.0	9.6	4.5	1.6	1.7	0	1.6	0
Operative	1	15.0	8.6	10.4	2.2	0	3.8	1.5	1.6	3.4	1.8	3.2	3.3
Private household worker	1	0	0	0	0	0	0	0	0	0	0	1.6	0
Service	1	1.7	0	0	0	6.1	0	4.5	3.2	1.7	1.8	1.6	0
Farm laborer	1	0	0	0	0	0	0	0	0	0	0	0	0
Other laborer	1	1.7	0	2.1	0	2.0	1.9	.....	.....	.....	.....	.....	.....
Homemaker	1	.....	.....	.....	.....	.....	.....	7.6	14.3	25.9*	43.6	41.3	35.0

df = 10
X^2 for boys = 18.99*
X^2 for father of boys = 9.41
X^2 for mother of boys = 21.14*
X^2 for girls = 5.22
X^2 for father of girls = 6.55
X^2 for mother of girls = 7.75

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

Data in Table 12 indicate that the higher the level of living, the more likely boys were to expect to enter professions. However, more middle-level fathers and mothers had this expectation, followed by parents from the high level-of-living group and finally by those from the low level.

Table 12. Occupations Expected by 118 Boys and 195 Parents for Them as Related to Level of Living

(in percentages of the number in column)

Expected Occupation	df	Boys			Fathers			Mothers		
		41 High	40 Med	37 Low	30 High	35 Med.	29 Low	35 High	33 Med.	33 Low
Professional	2	58.5**	37.5	24.3	50.0*	54.3	24.1	51.4***	54.5	12.1
Farmer	2	14.6	12.5	18.9	16.7	22.8	17.2	17.1	27.3	27.3
Manager	2	2.4	2.5	2.7	0	0	0	5.7	0	3.0
Clerical	2	0	5.0	8.1	3.3	2.8	13.8	0**	3.0	18.2
Sales	2	0	7.5	5.4	13.3	5.7	0	5.7	6.1	6.1
Craftsman	2	17.1	15.0	27.0	10.0**	5.7	37.9	17.1	3.0	21.2
Operative	2	7.3	17.5	10.8	3.3	8.6	6.9	0	0	6.1
Private household worker	2	0	0	0	0	0	0	0	0	0
Service	2	0	2.5	0	0	0	0	2.8	6.1	0
Farm laborer	2	0	0	0	0	0	0	0	0	0
Other laborer	2	0	0	2.7	3.3	0	0	0	0	6.1

df = 20
X^2 for boys = 19.82
X^2 for fathers = 25.67
X^2 for mothers = 36.06*

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

Middle-level parents were more ambitious than their sons in this respect, while low-level mothers were less ambitious than their sons.

Fathers from the low level-of-living group more often expected sons to become craftsmen than did other fathers. Low-level mothers more often expected sons to enter the clerical field than was true of other mothers. Since there are still many jobs in these fields for which non-college training is sufficient, this may relate to the shorter length of schooling many of these parents expected for their sons.

Boys and parents who lived on a farm were more likely to expect to enter farming as an occupation than were non-farm residents.

Expected Occupation	df	Boys		Fathers		Mothers	
		Farm	Non-farm	Farm	Non-farm	Farm	Non-farm
Farmer	1	25.4%	5.1%**	32.6%	4.4%***	32.1%	14.6%*

Total category

df = 10
X^2 for boys = 14.83
X^2 for fathers = 14.10
X^2 for mothers = 12.85

X^2 significance levels

* = 5 %
** = 1 %
*** = 0.1%

Parents' Opinions of Children's Occupational Plans

Most boys and girls in the sample thought that their parents agreed with their occupational choices or would leave the choice up to them. In this matter, students were gauging their parents' opinions accurately. Although more boys than parents said they had never discussed the subject, this may have been because more parents felt the choice was up to their sons.

Boys from large families were more likely to feel that they had never discussed their occupational plans with their parents. However, this difference was not noticeable in the parents' answers.

		Boys		Fathers		Mothers	
Opinion Held	df	Small family	Large family	Small family	Large family	Small family	Large family
Never discussed it.....	1	14.3%	34.8%**	8.7%	9.1%	4.3%	6.2%

Total category

df = 4
X^2 for boys = 10.22*
X^2 for fathers = 4.01
X^2 for mothers = 2.27

X^2 significance levels

* = 5%
** = 1%

Parents' Opinions of Careers for Girls

Table 13 is a comparison of what the girls considered to be their parents' opinions of careers for them and the actual opinions as stated by the parents. Most girls and parents felt that girls should be prepared for both marriage and a career. A few fathers and mothers felt that a girl should prepare for a career rather than marriage and a few daughters expressed this idea. This was a deviation from the usually accepted social concept that all women should expect to marry.

Table 13. Parents' Opinions of Careers for Girls as Estimated by 140 Girls and 138 Fathers and by 141 Girls and 138 Mothers

(in percentages of number in each column)

Parent's Opinion	140 Girls	138 Fathers	141 Girls	138 Mothers
Girls should expect to marry	2.1	0.7	0.7	1.4
Girls need little preparation for a career	5.7	5.8	5.6	4.3
Girls should prepare for a career and marriage	86.4	84.0	88.0	90.6
Homemaking is not a full-time occupation except when children are small	0	2.2	2.1	0
Girls should prepare for a career, not marriage	5.7	7.3	3.5	3.6

Girls from large families were more likely to think that their mothers felt they needed little preparation for a career, since they would probably marry. Actually mothers of large families did not vary significantly from mothers of small families in this respect.

Mothers' Opinion	df	Girls		Mothers	
		Small family	Large family	Small family	Large family
Girls need little preparation for a career	1	0%	11.1%**	5.9%	2.8%

Total category	X^2 significance levels
df = 4	* = 5%
X^2 for girls = 11.2*	** = 1%
X^2 for mothers = 1.04	

Parental Financial Help Toward Starting an Occupation

Level of living was significantly related to the amount of financial assistance parents were willing to provide for sons' starting in occupations, but not to the amount sons expected. In general, the higher the level of living, the greater the amount of financial assistance parents were willing to provide. (Table 14).

Boys from all 3 levels of living were likely to overestimate the amount of parental financial assistance, again indicating the need for more discussions of financial matters between teenagers and parents.

Boys from small families were more likely than boys from large families to expect parents to provide most of the money they would need for getting started in an occupation. More boys and mothers from large families expected little help to be provided. No statistical-

Table 14. Parental Financial Assistance Expected in Starting an Occupation as Estimated by 136 Boys and 275 Parents as Related to Level of Living

(in percentages of the number in each column)

Expected Financial Assistance	df	Boys			Fathers			Mothers		
		47 High	44 Med	45 Low	45 High	46 Med	47 Low	46 High	46 Med	45 Low
All help needed	2	36.2	27.3	22.2	11.1	8.7	4.2	15.2*	4.3	2.2
Most help needed	2	17.0	29.5	13.3	17.8*	13.0	2.1	23.9	17.4	13.3
Some help	2	36.2	31.8	51.1	66.7	73.9	74.5	60.9	71.7	62.2
Very little help	2	10.6	9.1	8.9	4.4	2.2	12.8	0**	4.3	20.0
No help	2	0	2.3	4.4	0	2.2	4.4	0	2.2	2.2

	X^2 significance levels
df = 8	* = 5%
X^2 for boys = 9.30	** = 1%
X^2 for fathers = 14.92	*** = 0.1%
X^2 for mothers = 21.52**	

ly significant difference caused by family size appeared in fathers' answers.

Expected Financial Aid	df	Boys: Small family	Boys: Large family	Mothers: Small family	Mothers: Large family
Most help needed	1	29.0%	10.4%**	22.5%	13.6%
Very little help	1	2.9%	16.4%**	2.8%	13.6%*

Total category

df = 4
X^2 for boys = 15.9**
X^2 for mothers = 8.75

X^2 significance levels

* = 5%
** = 1%

Table 15 is a comparison of the amount of parental financial assistance expected in starting an occupation as estimated by boys and parents, as related to place of residence. In general, farm boys and their parents expected provision of more parental financial assistance than did non-farm boys and parents.

Table 15. Parental Financial Assistance Expected in Starting an Occupation as Estimated by 136 Boys and 275 Parents, as Related to Place of Residence

(in percentages of numbers in each column)

Expected Financial Assistance	df	Boys: 67 Farm	Boys: 69 Non-farm	Fathers: 68 Farm	Fathers: 70 Non-farm	Mothers: 68 Farm	Mothers: 69 Non-farm
All help needed	1	31.3	26.1	13.2*	2.8	11.8*	2.9
Most help needed	1	25.4	14.5	11.8	10.0	17.6	18.8
Some help	1	37.3	42.0	63.2*	80.0	58.8	71.0
Very little help	1	4.5*	14.5	8.8	4.3	10.3	5.8
No help	1	1.5	2.9	2.9	2.8	1.5	1.4

df = 4
X^2 for boys = 6.42
X^2 for fathers = 7.20
X^2 for mothers = 5.36

X^2 significance levels

* = 5%
** = 1%
*** = 0.1%

HIERONYMUS SCALE FOR MEASURING ATTITUDES ABOUT EDUCATION

Interpretation of Data

The Hieronymus scale for measuring attitudes toward education (21) was administered to the 285 rural Virginia students and their fathers and mothers. Parents were asked to answer as they hoped their children would answer, rather than to express their own opinions. As measured by this scale, the higher educational scores indicate greater value placed on education.

F ratios were calculated for the children's scores and for the differences in the variation parents' scores showed from children's

scores. For example, the difference between fathers' and daughters' scores were compared to the difference between fathers' and sons' scores to obtain the F ratio for fathers as related to sex of the child. The parent's score was subtracted from the child's score to obtain this difference. Thus when a positive difference was obtained, the child had a higher score than the parent; when a negative difference was obtained, the parent had scored higher than the child. This method was used in analyzing data from both the Hieronymus scale and the Kuder profile.

Comparison Among States

As measured by the Duncan New Multiple Range Test(19) at both the 5% and 1% levels, Virginia students in general scored significantly lower on the Hieronymus scale than did students from Kentucky and North Carolina.

1%

Kentucky	North Carolina	Tennessee	Virginia
185.72	183.04	179.88	178.05

5%

Kentucky	North Carolina	Tennessee	Virginia

df = 3 F = 13.62, significant at 0.1%

When judged by this scale, these Virginia students placed less value on education than did students from Kentucky and North Carolina.

Virginia Results

Sex of the child was the most important factor influencing scores achieved by Virginia students and their parents. Membership and level of living were the only other factors related to scores achieved by Virginia residents, and no interactions of factors showed significant relationships.

Factor	df	Significance Levels of F Ratios: Students	df	Fathers	df	Mothers
Sex of child	1	.01	4	.01	1	.01
Membership	1	.01	4	.....	1	.01
Level of living	2	.05	8	.....	2	.....

Virginia girls scored an average of 180.79 on the Hieronymus scale, indicating that they valued education more highly than did boys, who averaged 175.32 points.

Fathers of girls were the only parents hoping that children would be more interested in education than was actually the case. The lower scores of the other parents were not consistent with the fact that many parents wanted their children to stay in school longer than planned for by the children.

	Boys	difference	Girls	difference
Students	175.32	.....	180.79	.....
Fathers	169.85	5.47	182.56	−1.77
Mothers	167.19	8.13	178.70	2.09

df		
1	F for children = 8.73**	
∞	t for fathers = 2.64**	** = significance at 1%
1	F for mothers = 8.13**	

Non-members registered a higher average score on the Hieronymus scale than members did. This agreed with the fact that more non-members intended to continue schooling beyond high school.

	Members	difference	Non-Members	difference
Students	175.58	.....	180.52	.....
Fathers	171.64	3.94	180.26	0.26
Mothers	167.50	8.08	178.38	2.14

df		
1	F for students = 7.12**	
4	F for fathers = 0.81	** = significance at 1%
1	F for mothers = 7.87**	

Middle and high level-of-living students valued education more highly than did low-level students, according to results of the Hieronymus scale.

	High Level	Middle Level	Low Level	df	F ratio
Students	179.07	180.57	174.51	2	3.86*

* = significance at 5%

For these data and for Kuder data, to obtain t or F values for parents the differences in parents' deviations from students' scores were analyzed statistically, rather than the parents' actual scores.

KUDER PREFERENCE RECORD—VOCATIONAL FORM C

General Explanation and Results

The Kuder Preference Record—Vocational Form C(22) was also administered to the 285 Virginia students and their parents. Parents were asked to answer as they hoped their children would answer, rather than to express their own preferences. The same method was used in evaluating these data as was used for data from the Hieronymus scale. A positive difference indicates that children had a greater preference for an area than parents hoped they had; a negative difference indicates that parents hoped children had more preference for an area than was actually the case.

Results of the Kuder Preference Record measure an individual's general interest in 10 broad areas of interest: outdoor, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical.

Graph 1 is a presentation of average scores made in each of the 10 areas by 144 Virginia boys and their parents, answering as they hoped their sons would answer. On this graph, these scores are reflected on a Kuder Profile background and are measured against the general population percentiles for males. The actual numerical scores made in each area are not shown on this graph.

The averages for Virginia boys fell within the middle half of the percentile range for all 10 areas, indicating that the average preferences of the boys did not deviate drastically from the general average of all males. The boys reached the highest percentile rank in the outdoor area—perhaps a reflection of their rural environment. This was followed in order by preferences for the clerical, artistic, scientific, persuasive, mechanical, computational, literary, social science, and musical areas.

The average scores that fathers hoped for sons were also within the middle half of the percentile range. Although fathers hoped sons showed more interest in the mechanical and scientific areas than was the case, in most areas boys and fathers showed similar preferences.

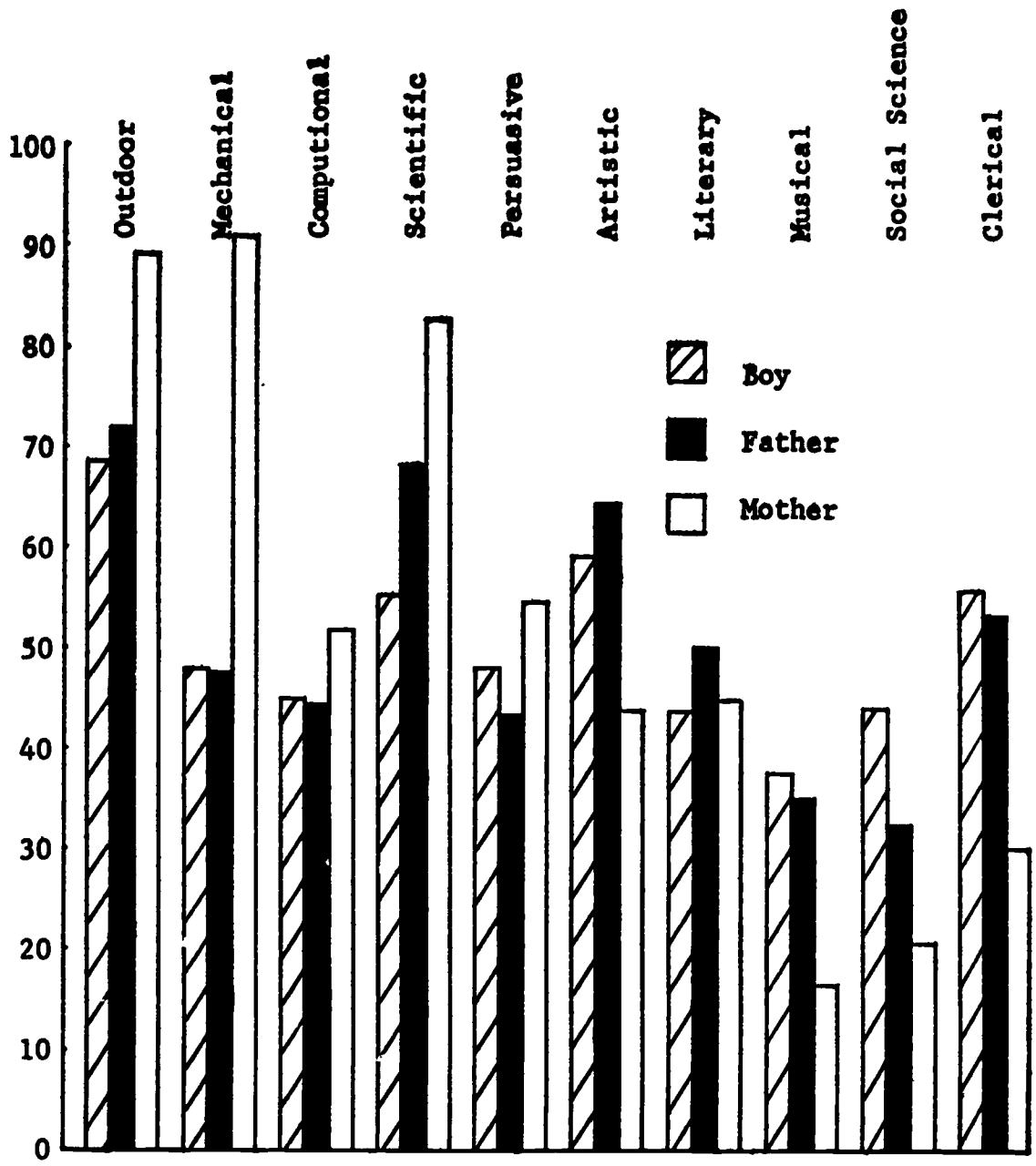
Mothers of boys, however, departed from the middle half of the percentile range in 5 areas with the scores they hoped for sons. Mothers hoped sons showed outstanding preference—above the 80th percentile—for the mechanical, outdoor, and scientific areas. Mothers also hoped sons showed extreme lack of preference—below the 20th percentile—for the musical and social science fields. Mothers and sons had similar scores only in the literary area.

Average scores made in each of the 10 areas by 141 Virginia girls and by their fathers and mothers answering as they hoped their daughters answered are presented in Graph 2. On this graph, scores are reflected on a Kuder Profile background and are measured against general population percentiles for females. The actual numerical scores are not shown on this graph.

The average scores for the girls fell in the middle half of the population percentile range in all 10 areas, indicating that they did not

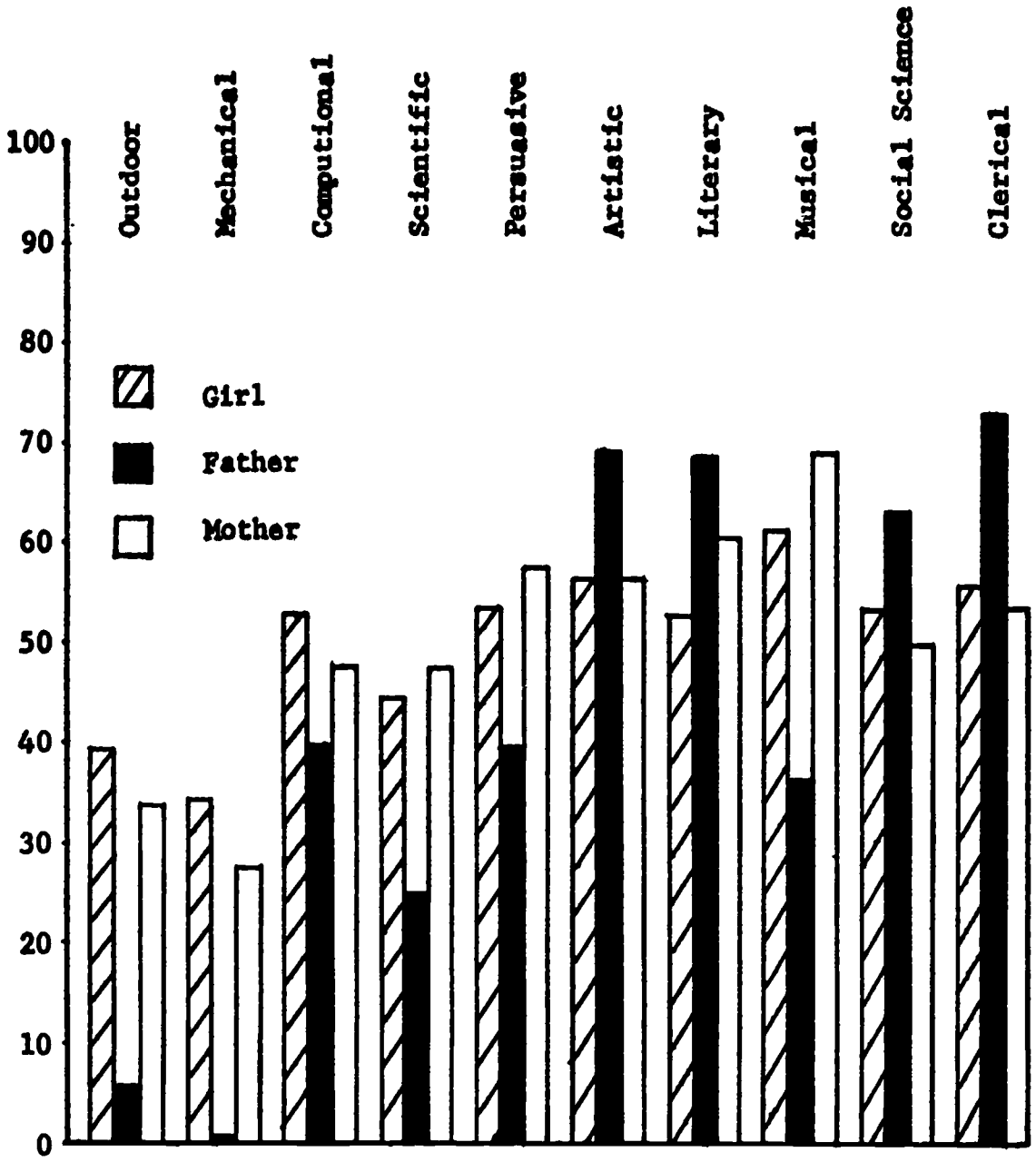
Graph 1

Kuder Profile Percentile Rank of Average of Scores for 144 Virginia Boys and Their Parents



Graph 2

Kuder Profile Percentile Rank of Average of Scores for 141 Virginia Girls and Their Parents



differ drastically from the general average of all females. The girls reached the highest percentile level in the musical area, followed in order by the persuasive, artistic, clerical, social science, computational, literary, scientific, outdoor, and mechanical areas.

There was a wide gap between what daughters scored and what fathers hoped they scored. This was especially pronounced in the outdoor and mechanical areas, for which fathers hoped daughters showed very little preference—below the 10th percentile.

Mothers and daughters were in closer agreement regarding preferences.

Significance levels attained by the average scores made by students, fathers and mothers for the 10 Kuder interest areas, as related to certain main factors, are presented in Table 16 and 17. Only those main factors significantly related to preferences for certain areas are discussed in detail. Tables of 2-way interactions showing significant relationships with preferences for the various interest areas are included in the Appendix.

Table 16. Levels of Significance for Scores on Kuder Interest Areas Made by Virginia Youth

	Main Effects					
Interest Area	Sex	Membership	Level of Living	Residence	Family Size	Area of State
Outdoor	.001	.01	.....	.001	.....	.....
Mechanical	.001	.001	.....	.....	.....	.....
Computational	.001	.01	.....	.....	.....	.....
Scientific	.001	.....	.01	.....	.....	.....
Persuasive	.....	.....	.05	.....	.....	.....
Artistic	.001	.....	.....	.....	.....	.....
Literary	.001	.01	.....	.....	.....	.....
Musical	.001	.....	.....	.....	.....	.....
Social Service	.001	.....	.05	.....	.....	.....
Clerical	.001	.....	.....	.....	.05	.....

Table 17. Levels of Significance for Differences Between Parents' Scores and Students' Scores in Kuder Interest Areas

	Main Effects							
	Fathers						Mothers	
Interest Area	Sex	Membership	Level of Living	Place of Residence	Family Size	Area of State	Sex	No other main effects significant for mothers
Outdoor	.001	.....	.....	.....	.....	.....	.001	
Mechanical	.001	.....	.....	.....	.....	.....	.001	
Computational	.05	.....	.....	.....	.....	.....	.05	
Scientific	.001	.01	.....	.....	.....	.....	.001	
Persuasive	.....	.....	.....	.....	.....	.....	.....	
Artistic	.05	.....	.....	.....	.....	.....	.001	
Literary	.05	.....	.....	.....	.05	.....	.....	
Musical	.001	.....	.....	.....	.....	.....	.001	
Social science	.001	.....	.....	.....	.05	.....	.001	
Clerical	.001	.....	.....	.....	.....	.....	.001	

Kuder Outdoor Interest Area

Boys showed much more preference for the outdoor area than did girls. Parents hoped that sons showed still greater interest and that daughters showed even less interest in outdoor pursuits than was the case.

	Boys	difference	Girls	difference	df	F ratio
Students	51.19	.....	30.26	.....	1	227.1***
Fathers	52.64	− 1.45	14.80	15.86	4	43.73***
Mothers	62.67	−11.48	27.66	2.6	1	64.98***

*** = significance at 0.1%

Members of the Future Farmers of America, Future Homemakers of America, or 4-H Club showed a greater preference for the outdoor interest area than did non-members.

Members	Non-Members	df	F ratio
42.77	38.69	1	8.64**

** = significance at 1%

Students from farms showed a greater preference for the outdoor interest area than did non-farm students.

Farm Students	Non-Farm Students	df	F ratio
43.63	37.83	1	17.39**

** = significance at 1%

Kuder Mechanical Interest Area

Sex of the child was significantly related to preferences of students and parents for this area. Boys had much greater mechanical interest than girls. Fathers hoped their daughters would be much less interested and mothers hoped their sons would be much more interested than was the case.

	Boys	difference	Girls	difference	df	F ratio
Students	44.86	.....	20.83	.....	1	499.1***
Fathers	45.61	0.25	2.91	17.92	4	53.1***
Mothers	60.77	−15.91	19.81	1.82	4	54.9***

*** = significance at 0.1%

Members of the named rural youth organizations showed greater preference for the mechanical area than did non-members.

Members	Non-Members	df	F ratio
34.69	30.99	1	11.84**

** = significance at 1%

Kuder Computational Interest Area

Boys showed more preference for this area than girls. Mothers of boys hoped for more interest than was actually shown.

	Boys	difference	Girls	difference	df	
Students	27.01	.....	23.56	.....	1	F = 19.47***
Fathers	26.80	0.21	19.22	4.34	∞	t = 2.47*
Mothers	28.27	−1.26	22.43	1.13	∞	t = 2.32*

* = significance at 5%
*** = significance at 0.1%

Non-members showed more preference for the mechanical interest area than did members.

Members	Non-Members	df	F ratio
23.97	26.58	1	11.08**

** = significance at 1%

Kuder Scientific Interest Area

Sex was significantly related to scores of students and parents in the scientific interest area, with boys showing much greater preference for this area than girls. Fathers of daughters were the only parents hoping children showed less than actual interest.

	Boys	difference	Girls	difference	df	F ratio
Students	42.06	.....	30.65	.....	1	76.3***
Fathers	46.16	−4.1	25.39	5.26	4	22.3***
Mothers	50.79	−8.73	31.38	−0.73	4	9.81***

*** = significance at 0.1%

Students' membership or non-membership in certain rural youth groups was significantly related to scores fathers hoped students made in the scientific interest area, but not to students' actual scores. Fathers hoped members had less interest and non-members had more interest than was the case.

	Member	difference	Non-Member	difference	df	
Students	35.34	.....	37.37	.....	1	F = 2.42
Fathers	33.22	2.12	38.36	−0.99	∞	t = 2.59**

** = significance at 1%

Level of living was significantly related to students' preferences for the scientific area, with low level-of-living students showing the least interest.

Level of Living	High	Middle	Low	df	F ratio
Students	37.51	38.19	33.87	2	5.33**

** = significance at 1%

Kuder Persuasive Interest Area

Boys averaged 38.89 points and girls 37.26 points, a non-significant difference. Level of living was the only main effect significantly related to students' preference for this area, with low-level students showing the most preference and middle-level students the least.

Level of Living	High	Middle	Low	df	F ratio
Students	38.49	36.18	39.56	8	2.09*

* = significance at 5%

Kuder Artistic Interest Area

Sex was the only main effect significantly related to students' or parents' preferences for this area. Girls showed more interest than boys. Fathers hoped sons and daughters showed greater than actual interest. Mothers hoped sons would show less interest and that daughters would show the same amount they actually showed.

	Boys	difference	Girls	difference	df	
Students	24.02	.....	27.97	.....	1	F = 13.15***
Fathers	25.62	−1.6	32.37	−4.4	∞	t = 2.54*
Mothers	20.13	3.89	27.96	0.01	∞	t = 3.46***

* = significance at 5%
*** = significance at 0.1%

Kuder Literary Interest Area

Sex of the child was significantly related to students' and fathers' preferences for this area. Girls showed greater preference than boys. Fathers wanted children to show greater than actual interest, with fathers of girls hoping so more strongly than fathers of boys.

	Boys	difference	Girls	difference	df	F ratio
Students	17.69	.....	21.02	.....	4	18.63***
Fathers	18.96	−1.27	24.46	−3.44	4	2.5*

* = significance at 5%
*** = significance at 0.1%

Non-members of the FFA, FHA, or 4-H Club showed significantly more preference for the literary area than members of these groups did.

Members	Non-Members	df	F ratio
18.27	20.44	8	2.74**

** = significance at 1%

Although family size was not significantly related to students' preferences for the literary area, it was significantly related to preferences fathers hoped students made. All fathers, especially those of small families, hoped for more interest in the literary area than was actually shown by the students.

	Small Family	difference	Large Family	difference	df	
Students	19.52	.....	19.19	.....	4	F = 0.23
Fathers	23.04	−3.52	20.38	−1.19	∞	t = 2.35*

* = significance at 5%

Kuder Musical Interest Area

Sex was significantly related to the average scores recorded for students and parents in this area. Girls showed much stronger preference than boys. Only mothers of girls wanted children to show greater than actual interest.

	Boys	difference	Girls	difference	df	F ratio
Students	9.62	.....	16.97	.....	4	78.77***
Fathers	9.03	0.59	1Ł.44	4.53	1	31.50***
Mothers	6.02	3.6	18.37	−1.4	4	12.37***

*** = significance at 0.1%

Kuder Social Science Interest Area

Sex was significantly related to average scores made by children and parents, with girls showing more preference than boys. Only fathers of girls hoped children showed more than actual interest.

	Boys	difference	Girls	difference	df	F ratio
Students	40.09	.....	49.96	.....	4	72.22***
Fathers	35.59	4.5	53.93	−3.97	1	29.96***
Mothers	30.93	9.16	48.42	1.54	4	16.66***

*** = significance at 0.1%

Level of living was related to preferences for the social science area by students, as follows:

Level of Living	High	Middle	Low	df	q(k = 3)
Students	46.8	43.5	44.78	8	3.33*

* = significance at 5%

Fathers of small families hoped children would be more interested in the social science area than was the case. Fathers of large families held the opposite view.

	Small Family	difference	Large Family	difference	df	F ratio
Students	45.81	.....	44.24	.....	4	0.68
Fathers	47.08	−1.27	42.41	1.83	1	3.99*

* = significance at 5%

Kuder Clerical Interest Area

Girls showed significantly more interest in this area than boys. This corresponds with the fact that more girls than boys planned to enter the clerical field. Fathers of girls were the only parents hoping children showed greater than actual interest.

	Boys	difference	Girls	difference	df	F ratio
Students.....	48.31	.....	59.78	.....	4	97.72***
Fathers.....	47.74	0.56	67.09	−7.31	1	18.22***
Mothers.....	38.99	9.31	58.54	1.24	4	9.34***

*** = significance at 0.1%

Children from large families showed significantly more preference for this area than children from small families.

Small Family	Large Family	df	t
52.66	55.42	∞	1.97*

* = significance at 5%

IMPLICATIONS

Only in recent years has serious attention been given to the educational and vocational goals of young Americans, and this is especially true for youth in rural areas. This new emphasis on education for rural youth results from many factors associated with a rapidly changing society. In all probability, the important contributing factors are (1) accelerated migration of youth away from the farm, (2) automation, (3) growing need for technically trained workers, and (4) abandonment of rural provincialism in favor of a value system identified with middle-class urban America. The study on educational and vocational goals of Virginia's rural youth fits well into the complexities growing out of these factors of rapid societal change, and the implications offer a challenge too great to be treated casually.

Of all the study variables tested in the research reported in this bulletin, the family level-of-living variable was found the most significant in determining the amount of education planned and the kind of career desired. Youth from the high level-of-living group were more apt to plan to seek professional careers, expect to receive financial assistance while in college, and anticipate receiving help in starting an occupation, than those from the middle and low level-of-living groups. Youth from high level-of-living families also placed greater value on education than those from the middle and lower income levels; likewise they were receiving more encouragement from their parents to continue their education. Mothers of the low income group were found less likely to want their sons in professions, and girls from this group more often planned to enter operative than professional careers. Fathers from the middle level-

of-living group wished their sons to enter professions, yet they failed to recognize the importance of schooling to reach this goal. In summary, apparently the higher the level of living, the longer a boy or girl expected to stay in school and the longer parents expected them to study.

What apparently is needed for the middle and low level-of-living groups is information about ways and means whereby qualified youth may continue with education on funds other than family income. These families must also become more conscious of the value and relationship of education to career selection.

Place of residence, which for many years pointed out major differences between rural and urban youth, is in many cases no longer an important factor in educational and vocational desires of youth. Not all rural farm youth wish to be farmers, and not all non-farm youth desire to become doctors or lawyers. Yet, it is still natural to expect more farm youth to plan to become farm operators and more rural non-farm youth to seek non-farm careers. With a rural background, however, rural youth may wish to capitalize on the many professional career opportunities associated with the industry of agriculture. Here, too, is an added job for the school counselor in guiding rural farm youth. While fewer rural farm youth will be needed in farm production, twice as many are needed in professional agricultural careers than are presently graduated with agricultural degrees.

Career choices for both boys and girls fell within the middle half of the percentile range for all 10 Kuder Preference Areas. This indicates that average preference did not deviate drastically from the general norm. Youth, however, must be guided to become more realistic in their vocational desires in relation to schooling, since more youth in this study were planning to seek professional careers than expected to complete college. Apparently, youth are conscious of the better career opportunities at the professional level, but they fail to realize that college graduation is their best and sometimes only entrance to a professional career.

Most girls and their parents agreed they should be prepared for both marriage and a career. A few even broke with tradition and suggested that girls should prepare for a career first and then marriage. But rather significant is the continued trend to lack of higher education for girls from large families. Both girls and mothers in this instance felt it wise to enter the working world without further educational training. This notion continues the myth that professional careers are relatively unimportant for girls, especially when there are sons in the family to educate.

An analysis by membership and non-membership in youth organizations, such as the Future Farmers of America, Future Homemakers of America, and 4-H Club, revealed that the proportion of 4-H Club members included was too small to draw adequate conclusions concerning that organization. Differences between members and non-members, therefore, largely represent those for FHA and FFA youth. Significant differences were found between member and non-member boys, but not for girls. Boy members were signifi-

cantly less inclined to select certain academic high school subjects and to continue their education after high school. Only 25% of boy members planned to enter college, as compared with 47% for non-members.

Some persons in knowledgeable positions have expressed the belief that some high school youth are automatically placed in the agricultural curriculum because of their low grades, with the knowledge they will never enter college. This may account for part of the differences between members and non-members and the reason for less emphasis on certain academic subjects. The failure of some agricultural teachers to encourage their students toward college, and the fact that many teachers and counselors guide promising students away from an agricultural career, may account for much of the remaining difference.

In view of these beliefs, vocational agriculture teachers and counselors should encourage all youth to proceed as far as their abilities will allow. Those with agricultural interests should be encouraged to continue at the high school level and on into college without fear they are entering a non-important career field.

Virginia has a bright future. It is growing economically, industrially, and in population. Yet, if high school youth continue to hold to their present low placement value on education, when compared with sister states, many better-paying job opportunities open to them will be filled by better-educated youth from other states.

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APPENDIX

PROCEDURAL ADDENDA

Determination of Level of Living

An adaptation of the Cornell Level-of-Living Scale(23) was included on the latter part of the students' information sheets. This measured one component of their socio-economic status, level of living. This adaptation included 2 items which were not on the original short scale—possession of a separate deep-freeze unit and number of magazines which the family regularly received. The shorter 9-point scale was scored:

0-2=low
3-6=middle
7-9=high

A point was given for each of the following items:

1. Water piped in the house
2. Indoor bathroom
3. Power washing machine—automatic, not wringer
4. Deep-freeze unit, separate from refrigerator
5. Pressure cooker
6. Electric vacuum cleaner
7. Piano
8. Car two years old or less
9. Regular receiving 4 or more magazines

Selection of Sample Subjects

Questionnaires submitted to youth in randomly selected schools were used to classify subjects as to sex, level of living, place of residence, family size, and membership or non-membership—as defined in the main section on Procedure. A copy of the questionnaire is in the Regional bulletin(24).

Random selections were used to choose subjects for the various sub-groups from among those eligible, and no more than a total of 14 subjects was selected from any one school. Of the 6 subjects in each sub-group, 2 were selected from each of the 3 areas of the state —designated Tidewater, Piedmont, and Appalachian—to insure a statewide distribution of the sample. The classification design for

students, fathers, and mothers in each area of the state was planned to be:

Classification Design
(for students, fathers, and mothers in each of 3 areas of Virginia)

Members		Non-Members		Level of Living	Place of Residence	Family Size
I(Girls)	II(Boys)	III(Girls)	IV(Boys)			
6	6	6	6	High	Farm	1–2
6	6	6	6	High	Farm	3
6	6	6	6	High	Non-farm	1–2
6	6	6	6	High	Non-farm	3
6	6	6	6	Middle	Farm	1–2
6	6	6	6	Middle	Farm	3
6	6	6	6	Middle	Non-farm	1–2
6	6	6	6	Middle	Non-farm	3
6*	6	6*	6	Low	Farm	1–2
6	6	6	6	Low	Farm	3
6	6	6	6	Low	Non-farm	1–2
6	6	6	6	Low	Non-farm	3
72	72	72	72			

* Three subjects missing in Tidewater area.

The original design, above, called for a total sample of 288 each of students, fathers, and mothers. However, Virginia obtained only 285 subjects in each group because it was impossible to obtain 3 classification types from the population of the Tidewater area: 2 girl members in the low level of living, farm residence, small family size; and 1 girl non-member in the low level of living, farm residence, small family size.

STATISTICAL ADDENDA—ANALYSIS OF VARIANCE

Analyses of variance (F ratios) were used to detect significant differences in scores on the Hieronymus Scale and Kuder Profile Record. For this purpose there were 144 observations each for students, fathers, and mothers, each observation representing the mean of the individual observations falling in each cell.

Two subjects fell into each of the 144 cells for students, the 144 cells for fathers, and the 144 cells for mothers, except that 6 cells had only 1 subject and 3 had none. This was because it was impossible to obtain certain sample subjects from the Tidewater area—see Procedural Addenda. Cells into which these subjects and their parents would normally have been placed were thus incomplete. Data for the missing cells were obtained from similar classifications.

At the Institute of Statistics, North Carolina State University, F ratios for Virginia data were calculated for 10 of the 33 topics; where such F ratios were available they were used. For the remaining 23 topics, only 4-state composite F ratios were determined at North Carolina State University. For these topics Virginia data were extracted from 4-state data and pooled F ratios, with degrees of free-

dom 4 times greater, were calculated. The t or q test, whichever was appropriate, was used to verify the accuracy of such pooled F ratios for actual Virginia mean scores; such t or q significance levels are reported only where they vary from the pooled F ratios.

Table A, Appendix. Length of Schooling Planned by 285 Virginia Students, and by Their Parents for Them

(in percentages of number in each column)

Planned Length of Schooling	144 Boys	144 Fathers	144 Mothers	141 Girls	141 Fathers	141 Mothers	285 Students	285 Fathers	285 Mothers
This will probably be the last year	0.7	0	0	1.4	1.4	2.1	1.1	0.7	1.1
Another year or two	2.8	1.4	0	2.8	1.4	0.7	2.8	1.4	0.4
Finish high school only	60.4	52.8	53.5	55.3	52.5	51.8	57.9	52.6	52.3
Start college but probably won't finish	6.9	16.6	20.8	4.2	20.6	24.1	5.6	18.6	22.5
Graduate from 4-year college	22.2	22.9	19.4	25.5	22.6	19.1	23.9	22.8	19.4
Professional study after college	6.9	6.2	6.2	10.6	1.4	2.1	8.8	3.8	4.2

X^2 analysis regarding influence of sex of students
df = 5
X^2 = 8.95

Table B, Appendix. High School Subjects Considered Important by 144 Virginia Boys and 141 Virginia Girls

(actual number of answers for each subject)

High School Subjects	Boys	Girls
Agriculture	68	3
Biology	50	54
Chemistry and physics	49	56
Commercial course	51	95
English	106	109
Foreign language	31	46
Home economics	2	66
Industrial training	28	17
Mathematics	96	85
Social science	76	76
	557	607

Table C, Appendix. Occupations Desired by 274 Virginia Students and by 503 Parents for Them

(in percentages of the number in each column)

Occupation Desired	137 Boys	116 Fathers of boys	123 Mothers of boys	137 Girls	132 Fathers of girls	132 Mothers of girls
Professional	42.6	62.1	63.4	49.6	57.6	59.8
Farmer	22.4	12.8	12.2	0	0	0
Manager	0.7	0.8	1.6	0.7	0	0
Clerical	4.4	5.2	6.5	37.2	34.9	33.3
Sales	1.4	5.7	4.1	4.4	1.5	0.8
Craftsman	17.4	10.4	8.9	0.7	0	0
Operative	8.8	2.6	1.6	2.2	1.5	1.5
Private household worker	0	0	0	0	0	0
Service	1.4	0	0.8	3.6	0.7	1.5
Farm laborer	0	0	0	0	0	0
Other laborer	0.7	0	0.8	.....	.....	.....
Homemaker	.....	.....	.....	1.4	3.8	3.0

Table D, Appendix. Occupations Expected by 247 Virginia Students and by 431 Parents for Them

(in percentages of the number in each column)

Expected Occupation	118 Boys	94 Fathers of Boys	101 Mothers of Boys	129 Girls	113 Fathers of Girls	123 Mothers of Girls
Professional	40.9	43.8	39.2	41.0	34.2	30.0
Farmer	15.1	19.0	24.2	0.8	0	0
Manager	2.5	0	2.9	0	0	0
Clerical	4.2	6.4	7.0	38.0	24.7	25.4
Sales	4.2	6.4	5.8	3.1	0.9	0.8
Craftsman	19.4	17.1	13.9	0.8	0.9	0.8
Operative	11.8	6.3	1.9	1.5	2.6	3.2
Private household worker	0	0	0	0	0	0.8
Service	0.8	0	3.1	3.8	1.8	0.8
Farm laborer	0	0	0	0	0	0
Other laborer	0.8	1.0	2.0	.....	.....	.....
Homemaker	.....	.....	.....	10.9	34.7	38.1

Table E, Appendix. Parents' Opinions of Students' Occupational Plans, as Estimated by 139 Boys, 141 Girls and 541 Parents

(in percentages of number in each column)

Parental Opinion	139 Boys	135 Fathers	135 Mothers	141 Girls	135 Fathers	136 Mothers
Child is shooting too high	2.2	0	0	0.7	0	0.7
Child has chosen good occupation	41.1	41.5	47.4	51.7	42.9	51.5
Child should try something different	8.6	3.0	2.2	2.8	2.2	1.5
Choice is up to child	23.6	46.6	45.3	31.2	45.2	39.0
Never discussed it	24.5	8.9	5.2	13.5	9.6	7.4

Table F, Appendix. Levels of Significance for Scores Made on Kuder Interest Areas by Virginia Youths

	Two-Way Interactions								
Interest Areas	Sex x Membership	Sex x Level of Living	Sex x Family Size	Sex x Area	Membership x Level of Living	Membership x Family Size	Membership x Area	Residence x Area	Family Size x Area
Outdoor	.01	.....	.....	.....	.....	.....	.05	.05	.....
Mechanical	.....	.....	.....	.05	.....	.....	.....	.01	.....
Computational	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scientific	.....	.05	.....	.....	.05	.....	.....	.....	.....
Persuasive	.....	.....	.....	.....	.....	.....	.....	.....	.....
Artistic	.....	.....	.....	.....	.....	.05	.....	.....	.....
Literary	.....	.....	.001	.01	.....	.....	.....	.....	.....
Musical	.....	.....	.....	.....	.....	.....	.....	.....	.05
Social science	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clerical	.....	.....	.....	.....	.....	.....	.....	.....	.....

Non-significant interactions: Sex x Residence, Membership x Residence, Level of Living x Residence, Level of Living x Family Size, Level of Living x Area, Residence x Family Size.

Table G, Appendix. Levels of Significance for Differences Between Fathers' Scores and Students' in Kuder Interest Areas

Interest Area	Sex x Membership	Sex x Residence	Sex x Family Size	Sex x Area	Membership x Residence	Membership x Family Size	Residence x Level of living
Outdoor	.05	.....	.....	.....	.05	.....	.05
Mechanical	.....	.....	.01	.05	.....	.....	.....
Computational	.....	.001	.....	.....	.....	.....	.....
Scientific	.....	.....	.....	.....	.....	.....	.....
Persuasive	.....	.....	.....	.....	.....	.....	.....
Artistic	.....	.....	.....	.....	.....	.....	.....
Literary	.....	.....	.001	.....	.01	.....	.....
Musical	.....	.....	.....	.....	.....	.....	.....
Social science	.....	.....	.....	.....	.....	.05	.....
Clerical	.05	.....	.....	.....	.....	.....	.....

Non-significant interactions: Sex x Level of Living, Membership x Level of Living, Membership x Area, Level of Living x Family Size, Level of Living x Area, Residence x Family Size, Residence x Area, Family Size x Area.

Table H, Appendix. Levels of Significance for Differences Between Mothers' Scores and Students' Scores in Kuder Interest Areas

Interest Areas	Two-Way Interactions			
	Sex x Level of Living	Sex x Residence	Sex x Area	Membership x Residence
Outdoor	.....	.....	.....	.....
Mechanical	.....	.....	.....	.....
Computational	.....	.....	.....	.05
Scientific	.05	.....	.....	.....
Persuasive	.....	.05	.....	.....
Artistic	.05	.....	.....	.....
Literary	.....	.....	.05	.....
Musical	.....	.....	.....	.....
Social science	.....	.....	.....	.....
Clerical	.....	.....	.....	.....

Non-significant interactions: Sex x Membership, Sex x Family Size. Membership x Level of Living, Membership x Family Size, Membership x Area, Level of Living x Residence, Level of Living x Family Size, Level of Living x Area, Residence x Family Size, Residence x Area, Family Size x Area.

Tables of Two-Way Interactions Significantly Related to Average Scores Made on Areas of Kuder Profile by Students and Parents

Table I

Interaction of Sex with Membership as Related to Preferences for Kuder Outdoor Interest Area by Students and Fathers

	Boys	difference	Girls	difference
Member Student	55.25	.....	30.29	.....
Father of Member	60.75	−5.5	13.32	16.97
Non-Member Student	47.14	.....	30.24	.....
Father of Non-Member	44.54	2.6	15.49	14.75

df	F ratio
1	for students = 8.41, significant at 1%
4	for fathers = 2.77, significant at 5%

Table J

Interaction of Membership with Area of State as Related to Students' Preferences for Kuder Outdoor Interest Area

Area of State	Members	Non-Members
Tidewater	41.85	57.31
Piedmont	40.17	40.71
Appalachian	46.29	38.04

df = 2 F = 3.37, significant at 5%

Table K

Interaction of Area of State with Place of Residence as Related to Students' Preferences for Kuder Outdoor Interest Area

Area of State	Farm	Non-Farm
Tidewater	41.21	37.96
Piedmont	42.08	38.79
Appalachian	47.58	36.75

df = 2 F = 3.29, significant at 5%

Table L

Interaction of Level of Living with Place of Residence as Related to Preferences for Kuder Outdoor Interest Area by Students and Fathers

Level of Living	Students	Fathers	difference
High-Farm	42.44	32.27	10.17
Middle-Farm	44.50	38.92	5.58
Low-Farm	43.94	39.00	4.94
. . . . .			
High-Non-Farm	38.38	33.07	5.31
Middle-Non-Farm	39.54	32.83	6.71
Low-Non-Farm	35.58	25.06	10.52

df	
2	F for students = 0.89
∞	q for fathers = 5.54, significant at 1%

Table M

Interaction of Sex with Family Size as Related to Preferences for Kuder Mechanical Interest Area by Students and Fathers

	Boys	difference	Girls	difference
Child, small family	46.28	.....	22.04	.....
Father, small family	46.51	−0.23	0	22.04
Child, large family	43.44	.....	21.43	.....
Father, large family	42.70	0.74	7.64	13.79

df	
1	F for students = 5.53, non-significant
∞	q for fathers = 5.1, significant at 0.1%

Table N

Interaction of Sex with Area of State as Related to Preferences for Kuder Mechanical Interest Area by Students and Fathers

	Boys	difference	Girls	difference
Tidewater student	42.19	.....	21.02	.....
Tidewater father	40.29	1.90	3.85	17.17
Piedmont student	47.25	.....	19.25	.....
Piedmont father	49.42	−2.17	4.42	14.83
Appalachian student	45.15	.....	22.21	.....
Appalachian father	44.13	1.02	0.46	21.75

df	
2	F for students = 3.02, significant at 5%
8	F for fathers = 2.17, significant at 5%

Table O

Interaction of Sex with Place of Residence as Related to Preferences for Kuder Computational Interest Area by Students and Fathers

	Boys	difference	Girls	difference
Farm student	26.94	.....	24.47	.....
Farm father	26.15	0.79	21.89	2.58
Non-Farm students	27.07	.....	22.84	.....
Non-Farm fathers	27.45	−0.38	16.74	6.10

df	
1	F for students = 1.57
∞	q for fathers = 6.11, significant at 0.1%

Table P

Interaction of Place of Residence with Membership as Related to Preferences for Kuder Computational Interest Area by Students and Mothers

	Farm Residents	difference	Non-Farm Residence	difference
Member students	24.58	.....	23.38	.....
Mother of Members	24.57	0.01	24.19	−0.81
Non-Member students	26.83	.....	26.33	.....
Mother of Non-Members	25.07	1.76	27.58	−1.25

df	
1	F for students = 0.21
∞	q for mothers = 2.9, significant at 5%

Table Q

Interaction of Sex with Level of Living as Related to Preferences for Kuder Scientific Interest Area by Students and Mothers

Level of Living	Boys	difference	Girls	difference
High students	44.81	.....	30.21	.....
High mothers	56.85	−12.04	29.02	1.19
Middle students	45.04	.....	31.33	.....
Middle mothers	55.31	−10.27	33.41	−2.08
Low students	36.31	.....	30.42	.....
Low mothers	40.35	− 4.04	31.42	−1.0

df	
2	F for students = 4.49, significant at 5%
8	F for mothers = 2.49, significant at 5%

Table R

Interaction of Membership with Level of Living as Related to Students' Preferences for Kuder Scientific Interest Area

Level of Living	Members	Non-Members
High	34.33	40.69
Middle	39.00	37.36
Low	32.69	34.04

df	
2	F = 3.18, significant at 5%

Table S

Interaction of Sex with Place of Residence as Related to Students' and Mothers' Preferences for Kuder Persuasive Interest Area

	Boys	difference	Girls	difference
Farm student	38.40	.....	37.65	.....
Farm mother	40.02	−1.62	39.32	−1.67
Non-Farm student	39.38	.....	36.88	.....
Non-Farm mother	41.94	−2.56	36.66	0.22

df	
∞	q for students = 2.45
∞	q for mothers = 2.8, significant at 5%

Table T

Interaction of Membership with Family Size as Related to Students' Preferences for Kuder Artistic Interest Area

	Members	Non-Members
Small family	27.26	23.97
Large family	25.14	27.61

df = 4 F = 2.45, significant at 5%

Table U

Interaction of Sex with Level of Living as Related to Students' and Mothers' Preferences for Kuder Artistic Interest Area

Level of Living	Boys	difference	Girls	difference
High students	22.98	.....	26.73	.....
High mothers	18.42	4.56	25.02	1.71
Middle students	25.17	.....	29.02	.....
Middle mothers	21.71	3.46	28.79	0.23
Low students	24.37	.....	28.17	.....
Low mothers	20.72	3.65	30.09	−1.92

df

8 F for students = 0.63
8 F for mothers = 1.95, significant at 5%

Table V

Interaction of Sex with Family Size as Related to Students' and Fathers' Scores in Kuder Literary Interest Area

	Boys	difference	Girls	difference
Small family student	16.90	.....	22.14	.....
Small family father	17.84	−0.94	28.24	−6.10
Large family student	18.49	.....	19.9	.....
Large family father	20.09	−1.6	20.7	−0.8

df

∞ q for students = 8.06, significant at 0.1%
∞ q for fathers = 6.08, significant at 0.1%

Table W

Interaction of Sex with Area of State as Related to Students' and Mothers' Scores in Kuder Literary Interest Area

	Boys	difference	Girls	difference
Tidewater students	18.02	.....	20.88	.....
Tidewater mothers	19.35	−1.33	21.88	−1.0
Piedmont students	16.38	.....	20.81	.....
Piedmont mothers	15.55	0.83	23.14	−2.33
Appalachian students	18.69	.....	21.38	.....
Appalachian mothers	18.29	− 0.4	19.92	1.46

df

∞ q for students = 4.76, significant at 1%
∞ q for mothers = 3.33, significant at 5%

Table X

Interaction of Membership with Place of Residence as Related to Students' and Fathers' Scores in Kuder Literary Interest Area

	Members	difference	Non-Members	difference
Farm students	17.76	.....	20.74	.....
Farm fathers	19.52	−1.76	25.77	−5.03
Non-Farm students	18.78	.....	20.15	.....
Non-Farm fathers	20.49	−1.71	21.07	−0.92

df

4 F for students = 2.06
∞ q for fathers = 4.15, significant at 1%

Table Y

Interaction of Family Size with Area of State as Related to Students' Preferences for Kuder Musical Interest Area

	Small Family	Large Family
Tidewater	14.02	11.75
Piedmont	12.44	15.27
Appalachian	13.12	13.17

df = 8 F = 2.0, significant at 5%

Table Z

Interaction of Sex with Membership as Related to Students' and Fathers' Preferences for Kuder Clerical Interest Area

	Boys	difference	Girls	difference
Student members	46.19	.....	60.32	.....
Fathers of members	43.12	3.07	69.04	−8.72
Student non-members	50.42	.....	59.24	.....
Fathers of non-members	52.38	−1.96	65.13	−5.89

df	
4	F for students = 1.29
1	F for fathers = 5.61, significant at 5%