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FACTORS ASSOCIATED WITH THE COLLEGE ATTENDANCE OF YOUTH.

BY- HARP, JOHN MORTON, MILDRED
CORNELL UNIV., ITHACA, N.Y.

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THE EFFECTS OF A NUMBER OF INDEPENDENT VARIABLES ON COLLEGE ATTENDANCE RATE WERE STUDIED, USING A SAMPLE (590) OF MALE AND FEMALE HIGH SCHOOL GRADUATES FROM A RELATIVELY UNDERDEVELOPED REGION. THE VARIABLES INVESTIGATED WERE SOCIAL CLASS, SIZE OF HIGH SCHOOL, EDUCATION OF FATHER, EDUCATION OF MOTHER, NUMBER OF SIBLINGS, SEX, MARITAL STATUS, RESIDENTIAL BACKGROUND, MENTAL APTITUDE, EDUCATIONAL ASPIRATION, VOCATIONAL ASPIRATION, AND HIGH SCHOOL CURRICULUM. A SOCIAL-ENVIRONMENT VARIABLE DEALT WITH THE PROPORTION OF PROFESSIONAL OCCUPATIONS IN THE TOWNSHIPS WHERE THE SUBJECTS GRADUATED FROM HIGH SCHOOL. EVALUATIVE DATA WERE GATHERED ON THE SAMPLE WHILE IN HIGH SCHOOL AND 3 YEARS AFTER GRADUATION TO DETERMINE MIGRATION PATTERNS AND OCCUPATIONAL STATUS. AN INITIAL FINDING, REVEALING THAT A HIGHER PROPORTION OF GIRLS THAN BOYS ASPIRED TO A COLLEGE EDUCATION, LED TO THE USE OF SEX AS A CONTROL VARIABLE. ALL INDEPENDENT VARIABLES WERE FOUND TO BE RELATED TO COLLEGE ATTENDANCE. RELATIVE IMPORTANCE OF EACH OF THE VARIABLES, HOWEVER, WAS DIFFERENT BETWEEN BOYS AND GIRLS. AN ANALYSIS, CONTROLLING FOR SEX AND EDUCATIONAL ASPIRATIONS, INDICATED A SIGNIFICANT DIFFERENCE IN COLLEGE ATTENDANCE RATES FOR TWO TOWNSHIP ENVIRONMENTS CHARACTERIZED AS HIGH AND LOW IN PROFESSIONAL OCCUPATIONS. THE RESULTS SUGGESTED THAT PROGRAMS CONCERNED WITH ENCOURAGING STUDENTS TO ATTEND COLLEGE SHOULD TAKE INTO ACCOUNT THE DIFFERENT PATTERNS OF INFLUENCE FOR BOYS AND GIRLS. (JH)

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Cornell University

Ithaca, N. Y.

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INTRODUCTION

The present research is concerned with the educational aspirations and college attendance rates of a sample of male and female high school graduates from a relatively underdeveloped region. It is of particular significance since greater amounts of training and formal education are required to fulfill many occupational roles in today's society. The importance of social structural variables in facilitating or inhibiting the optimum development of the nation's human resources has been well recognized by research analysts and educational planners.

Social Climate and College Attendance

Within the past decade several investigators have been exploring a relatively new class of variables as predictors of students' educational aspirations and college attendance. Variously termed social climate, social context, social environment or social milieu, the interest in this concept stems from an originating question, which continues to plague sociologists. How does the environment exercise an independent influence on individuals? In some cases the analysis has been concerned with a specific environment, such as a neighborhood or school system, often including the more formal social networks of those systems, and attempts made to demonstrate some independent influence. The intent is to add something to the current battery of major predictors, which include sex, intelligence, socio-economic status, and by so doing to improve their predictive ability and broaden the overall explanatory base. Sometimes the variables pertaining to individual attributes such as socio-economic status, have been aggregated and used to classify the relevant social environment. At other times the problem has been couched in terms of structural effects, for example, research on the question of college plans for low aspirers in an environment characterized by relatively high aspiration levels.

Sources of educational aspirations have been examined in survey designs characterized by a wide variety of sampling techniques. A review of these studies yields a battery of fairly relevant predictors which usually include the following: mental aptitude or intelligence; socio-economic status; education of parents; sex. Recent work has taken on a more complex methodological style in attempting to establish interaction effects among and between the variables. The research of William Sewell and his co-workers (21) most nearly reflects both cross tabular and regression analysis approaches to elaboration of relationships among these variables.

The present research follows this trend in employing both cross tabular and regression techniques to test hypotheses involving relationships among twelve independent variables as predictors of college attendance. These variables are: socio-economic status, size of high school, education of father and mother, number of siblings, sex, marital status, residential background, mental aptitude, educational aspirations, vocational aspirations, high school curriculum. It is also a major purpose of the study to determine if the general social environment exercises an influence on college attendance independent of the contributions to explained variance made by certain relevant independent variables.

Social Class and Educational Aspirations

Early in the history of research on educational aspirations sociologists were exploring the origins of these aspirations in certain social class contexts. Lloyd Warner's early classic Who Shall Be Educated? (26) was followed by innumerable empirical studies employing some measure of socio-economic status as an independent variable. Occasionally these investigators focused on differences in patterns of choice within social strata or used social strata as a contextual device to ascertain the differential effects of family and peer group influences within a given class. One example of this type of research is Simpson's (25) study of middle class and working class patterns of influence. Recent public concern over residential segregation has produced a research interest in the use of social class variables to classify school environments. Wilson (27) examined the effects of differing values held by working class families as an important aspect of the school environment. He suggests that members of the working class tend to devalue education and to aspire to modest but secure occupations and income levels.

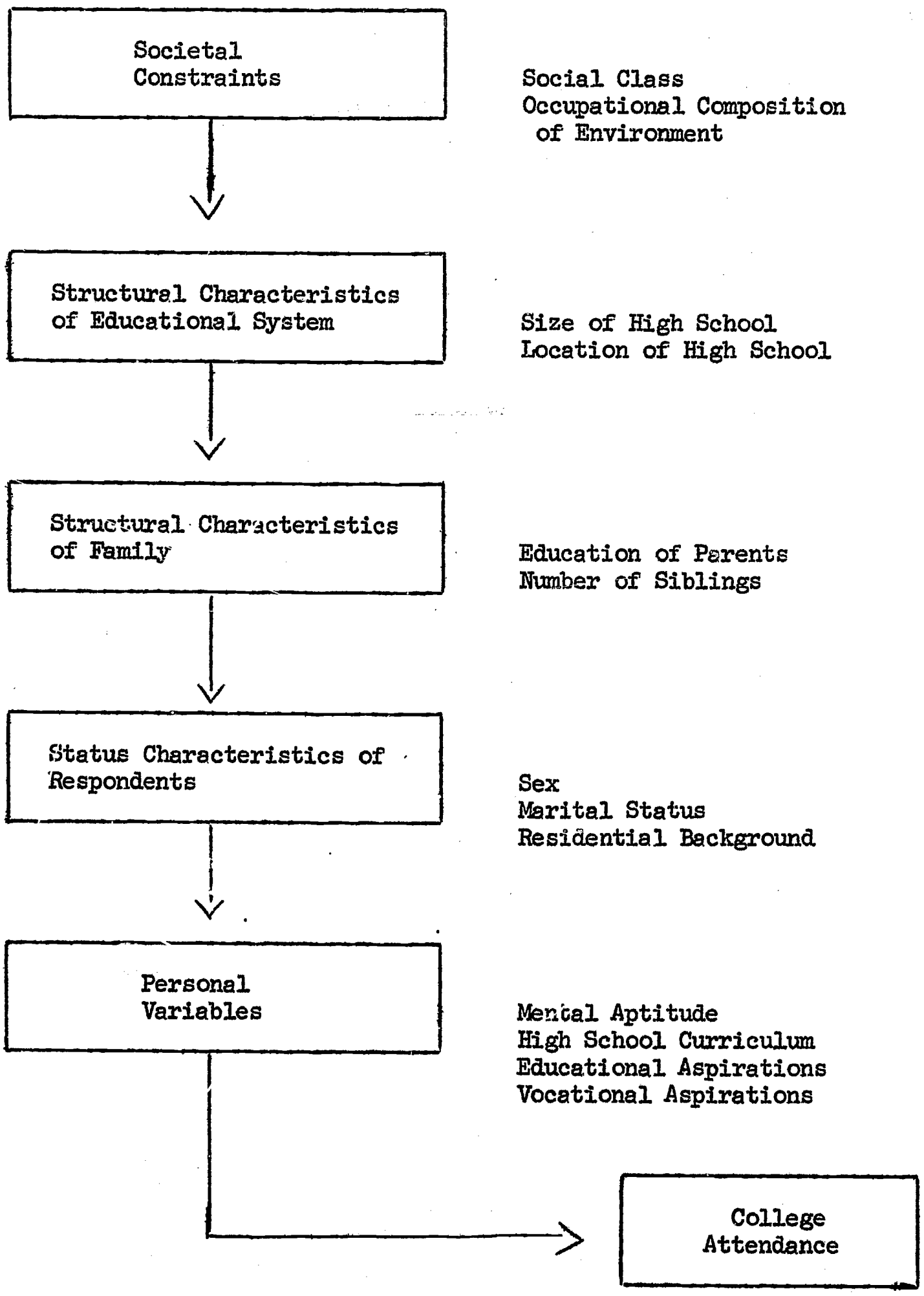
In the present research socio-economic status will be used as one of several social structural determinants of college attendance of high school graduates. The socio-economic index was developed by Duncan (16) and is based on an intensive analysis of occupations reported in the census. Education and income are both used in its construction.

Structural Characteristics of the Educational System

A schematic diagram presented in Figure 1, provides for some conceptual clarification of the variables referred to above and will serve to order their presentation in the report. Several previous studies (1, 4, 10) have analysed some aspect of the educational system. The importance of this class of variables has been well described by Rogoff (17). The argument often advanced for their inclusion rests upon the decentralized nature of American education,

Figure 1

Factors Influencing Variations
in
College Attendance of High School Youth



thereby permitting a relatively high degree of variation between schools in various locations. In the present study, the 18 high schools are similar in that they are all junior-senior high schools, having both state and regional accreditation, and offering six years of instruction (15). The structural variation in the school systems is not sufficient to permit extensive treatment.

Nevertheless, certain structural characteristics of the educational system such as size and location do provide major explanatory variables within this conceptual class. It is expected that larger high schools will offer a greater diversity of programs including counselling services for their students and will therefore graduate a higher proportion who actually attend college. One might also argue, as indeed some investigators have, that a larger school will be more highly diversified, and in this particular environmental context the social structure will exercise a dominant influence over personal attributes of students. Both of these hypotheses are relevant to the present study, where size of high school is measured in terms of size of the graduating class. High school location is subsumed within the occupational characteristic of the township in which it is situated. Some high schools, therefore, are located in areas with a high proportion of professional occupations and others are situated in townships with a relatively lower proportion of professional occupations. Further comments will be made about this variable later in the report.

Structural Characteristics of the Family

The educational attainment of mothers and fathers has been shown to be significantly associated with the college attendance of their children. Considerable discussion has centered about the relative influence of parents on the educational aspirations and vocational choice of their offspring. Hyman (8) argues effectively for the importance of the mother in the transmission of educational values, while Wilson (27) finds no support for the notion that mother's education is more influential than fathers on educational aspirations. In the present analysis, however, the sex of the respondent is introduced as a relevant variable and the hypothesis advanced that mother's education will be a more important predictor of college attendance for girls than for boys. In the former case the mother is much more likely to provide a tangible role model, in addition to the more pervasive influences achieved through the transmission of educational values.

With respect to father's education one would expect an association with both educational aspirations and college attendance. The variable would probably be operative through influencing the general life style of the family. Various combinations of mother's and

father's educational levels could provide the basis for further hypotheses. One such hypothesis for present consideration suggests a greater influence of mother's education on college attendance rates.

Another structural characteristic of the family concerns the number of siblings. Given the increased costs of higher education, crucial choices as to who shall be educated must often be made within many families. It is hypothesized that given the interrelatedness of college training and career orientation for boys in American society, this variable (number of siblings) will be more significant for the girls.

Status Characteristics of Respondents

Among the most crucial variables predicting college attendance of youth are those which describe certain key status characteristics. Reference is made to such variables as sex, marital status and place of residence. Although investigators have long been aware of different patterns of influence in the career choices of boys and girls, the majority of studies have dealt exclusively with male respondents. In those few instances where sufficiently large numbers of both sexes were present in the sample to permit comparison, conflicting results often ensue, usually concerning the relative importance of environmental and personal influences (e.g., the importance of social class, education of parents, school system for girls and boys). Consensus does appear, however, concerning the higher aspiration levels recorded for boys in a number of studies, a hypothesis we reiterrate. There are several elaborations of this relationship. Cutright (4), for example, states that:

> "So far as motivating students sufficiently to get them into college, the school has virtually no effect on boys, but does have some effect on girls . . . Although their (girls) level of actual attendance is lower, the school can and apparently does have some effect in giving the girls the extra push they need towards college education."

Sewell (21, 23) offers a somewhat similar interpretation after the fact, when he describes girls as more susceptible to environmental determinants. He concludes that since educational aspirations are less salient for girls in terms of career aspirations, they will be more susceptible to influences from the social milieu. It would seem logical to hypothesize that not only will girls have lower educational aspirations than boys, but they will be more responsive to influences from the social milieu, such as the school and the locality.

All of the factors discussed up to this point have been treated to some degree in past research. The same cannot be said of marital status, a variable which appears to have been largely ignored. Although sociologists of the family have commented at length upon the earlier age at marriage, and studies of college students have been equally repleat with reports of the increased proportion of married students, scant attention has been paid marital status as a factor influencing educational aspirations and/or college attendance of either girls or boys. It is to be expected that marital status will exercise a dominant influence on the career aspirations of boys and girls but one would hypothesize the influence to be greater for girls. Cutright (4) provides some of the background for this hypothesis in his statement:

> "The girls however present quite a different picture. The freshman girls are very different in their college going intentions than are girls in the higher grades. It is very clear that as the girls draw nearer to graduation from high school, they become less and less likely to have college going plans."

Marriage plans and marriage itself will probably serve to change career aspirations of girls much more readily than for boys.

Any oversight on the part of investigators concerning the previous variable has certainly not been the case with respect to residence patterns. Since Lipset's (11) initial formulation of the hypothesis, with little or no empirical support, practically every study has directed some attention to this factor. The full meaning of the hypothesis is discussed by Sewell (21) as follows:

> "While rural high school students are probably not completely unaware of either the rewards or the entrance requirements of many of the high prestige professional, managerial and technical positions available in urban communities, they are certainly less likely to have had first hand exposure to them. Moreover they are quite unlikely to have had direct contact with the occupants of these positions, to have observed what their occupational roles involve, to have knowledge of their life styles, or to have heard much about these matters from their parents, teachers or other adults."

The results have been without exception supportive of the hypothesis that rural youth have lower occupational aspirations than urban youth. Sewell (21) finds that under a range of conditions a similar pattern of results is obtained.

> "Generally this relationship holds regardless of age level of the sample, the particular cutting points used for determining high or low aspiration, and the criteria for categorizing communities."

Sewell (21) cites a number of studies (2, 5, 19) that have utilized varying techniques to achieve these similar results. Further elaborations of this relationship, taking into account other variables such as socio-economic status and intelligence, produce a sustained degree of association, particularly for high socio-economic status and high intelligence youth from rural areas.

Given the limited variability of residence patterns within the locale of the present study, only two categories are possible, 1) farm or open country, and 2) village or city. There are, for example, no cities over 20,000 in population within the study area. However, in view of the past importance of this variable it was deemed advisable to use even those molar categories, to test the hypotheses with still another sample.

Personal Characteristics of Respondents

Finally one must focus upon that class of variables on which considerable interest and attention has been lavished. We have chosen to term them personal variables; the class includes intelligence, educational and vocational aspirations, and high school curriculum. The first variable, measured intelligence, has been tested in numerous studies and its relationship to educational aspirations repeatedly substantiated (9, 13, 20). Michael (12) apparently believed the variable sufficiently important to justify its use in classifying the high school climates. Differences in the distribution of intelligence by place of residence have lead to its use as a control in making rural-urban comparisons (21). In the present study grades as well as intelligence are taken into account in the index of "mental aptitude." It is hypothesized that students with higher mental aptitude are more likely to plan on college and to actually attend college than those with lower mental aptitude.

The concept 'levels of aspiration' has received considerable attention in research on vocational choice. In particular the work of Haller (6) has recognized and classified several methodological problems associated with the use of this variable. For example, the attitudinal and vocational aspects of the scale have been recognized and often treated separately. The present use of the concept emphasizes vocational or career aspirations and solicits the response of high school seniors to the question "What type of occupation do you expect to have about ten years from now?" A ten year interval was deemed suitable for completion of most educational preparation

required to assume a given occupational role. It would seem reasonable to hypothesize a positive relationship with prestige rankings of occupations planned in the future and present college attendance, since most white collar occupations require college training. However, since the aspirations referred to here deal with an eventuality some time in the future one would expect a more pronounced relationship between the more immediate educational aspirations and college attendance.

It is evident from the references cited by Sewell and Haller (22) that previous research has usually used educational aspirations as the dependent variable. Since actual data on college attendance three years after high school graduation was available the variable, educational aspirations, could be used as an independent variable in this research. Graduating seniors indicated whether they definitely had plans to enroll in a college or university upon graduation from high school or whether they planned to do something else. Sewell (21) states that 90 percent of the college planners were enrolled in college one year later. For the present study the percentage was somewhat lower, at 44 percent. This refers, however, to planners who were attending three years after graduation. Attrition rates in certain curricula are known to be quite high. However, given the stage in career planning at which the decision was made, an association with implementation of the plans, namely college attendance is predicted.

Although the choice of a particular curriculum from the range of alternatives open to high school students represents a behavioral variable, it does involve a certain predisposition or orientation on the part of the subject towards particular vocational goals. Since the limited variation among the schools on this dimension precludes its treatment as a structural characteristic of the educational system, we have chosen to treat it as a personal variable. There are certain crucial choices a student must make albeit very early in his career decision making and these are often competitive with other choices or carry certain penalities in the event that changes are made. There is primarily one academic route that a student in New York State must take if he wishes to be prepared to attend college, and that is the regents or college preparatory curriculum. It would seem reasonable therefore to anticipate a high correlation between this choice and actual attendance at a four year accredited college or university.

In keeping with the interpretation given this variable above, the major curricula were ranked as to their degree of vocational orientation. They are college preparatory, commercial, and a residual category comprised of vocationally oriented curriculum such as agriculture, home economics and shop. The latter areas

contain too few numbers to be treated independently.

A majority of the preceeding hypotheses have been tested and supported in past research. A general objective of the present study is to provide additional elaboration for these relationships and some interpretation. With this in mind, the differential patterns of influence in the decisions of girls and boys to plan and actually attend college will be explored. The general hypotheses with respect to girls is that the ordering of the factors cited previously will show this subpopulation to be much more susceptible to the environment than boys and less motivated by aspirations or other personal variables. More specifically one would expect structural characteristics of the school and family, and status to exercise a greater influence.

The social context of the high school's location was derived from census data (14). It consists of the proportion (higher or lower than the average for the county) of the labor force in professional occupations. Examining the predictors of college attendance in these two social contexts a general hypothesis suggests that a relatively greater influence (proportion of explained variance) will be contributed by social structural factors in the environment with the higher proportion of professional roles. One would expect structural restraints and informal social pressures to be strongest in this environment. An obvious reason for this is that the social structure in such an environment is much more in evidence.

METHOD

Most previous research on the educational aspirations and college attendance of youth has examined influencing factors at one point in time. A somewhat unique feature of the present study, therefore, is its longitudinal design which provides data on the respondents just before their graduation from high school and again three years later. The bench mark data were obtained in May, 1962, as part of a study concerned with the role of the family in the migration plans of youth (3). An initial probability sample of seniors in the eighteen public high schools within a county in northern New York State yielded a working sample of 790 boys and girls. Data on these individuals were obtained by questionnaire.

Three years later, these same individuals constituted a panel for a follow-up study of their migration patterns and occupational status (7, 18). A 75 percent response from a mailed questionnaire (590 individuals) was obtained in August, 1965, and high school records were consulted for additional information (e.g. I.Q., curriculum followed). The questionnaire is presented in Appendix A. These 590 respondents for which data were available from the 1962 and 1965 questionnaires as well as the school records constitute the sample for the present study.

The representativeness of the initial sample (1962) and of the 1965 sample, was evaluated using the binomial distribution (24). In both instances, a selectivity of students with higher grades was noted. For the 1965 sample, the grade averages of respondents differed from those of the senior class in 16 schools; in 13 of these, the sample had higher grade averages. Analysis of the non-respondents showed that 10 percent ranked in the top quartile of their class, whereas over 60 percent ranked in the lower two quartiles. Higher grade levels of students in the sample would tend to favor aspiration levels and college attendance rates. However, an over-representation of rural youth in comparison with village or urban youth as found in both samples, would work against aspiration levels. The proportion of rural youth in each sample was the same, suggesting that residential background did not influence selectivity of returns in 1965. Over-representation of females was also found, with 257 males, and 333 females. Data pertaining to the representatives of the sample is presented in Appendix B.

The variables used to test the hypotheses previously cited were selected from the data collected in 1962 and 1965. Relationships between the dependent variable, college attendance, and 12 independent variables were initially examined. The independent variables were: socio-economic status, size of high school, education of mother and father, number of siblings, sex, marital status, resi-

dential background, mental aptitude, educational aspirations, vocational aspirations, and high school curriculum. Operational definitions for these variables are given in Appendix C.

In addition, census data was consulted for information on the proportion of the labor force in professional occupations in the township(s) identifying each high school's location and in the county as a whole. Details concerning the development of this index are also provided in Appendix C.

The Cornell University 1604 computer and library statistical programs were used for most of the analysis of data. The Cornell University Statistical (CUSTAT) Programs employed were: XTABS for cross tabulations (frequency distributions and percentage calculations) and computation of chi-square values; CORMA for correlation matrices; REFAC for regression analysis; ONVAR for one way analysis of covariance. Investigation was carried out in four stages.

I: Initially, a cross-tabulation procedure was employed to obtain contingency tables of each of the 11 independent variables (excluding sex, which was controlled) with the dependent variable, college attendance. Chi-square and coefficient of contingency values were derived for all of these tables. The relationship between various combinations of mother's and father's education and college attendance was also examined.

II: A correlation matrix was obtained for the total sample. Seven of the 12 independent variables were then selected for further study. These were: educational aspirations, education of father and mother, marital status, mental aptitude, vocational aspirations, and high school curriculum. Selection was contingent upon the size of relationships obtained in previous analysis and an interest in obtaining variables representative of the several conceptual categories referred to in Figure 1. A correlation matrix for these seven variables and college attendance was then obtained for the male and female subpopulation.

III. In order to determine the contribution of each independent variable to explained variance, a step-wise multiple regression technique was employed. The contribution of each of the variables to the multiple R was examined separately for subpopulations of boys and girls, and also for each of the environments.

IV: The final step of the investigation consisted of a one way analysis of covariance between college attendance and the environmental context. Sex and educational aspirations were selected as control variables largely because of the size of their correlations with the dependent variable, their amount of interrelatedness with other variables and the fact that they represent both the status and personal class of variables.

RESULTS

I. Cross Tabular Analysis

Initial findings revealed that a higher proportion of girls than boys aspire to a college education. Explanations for this anomaly are sought through the use of sex as a control variable. Higher educational aspiration levels for girls are not followed by similarly high college attendance rates. These results suggest possibilities for further research on the nature of the intervening opportunities that alter the girls' educational plans.

The results of chi-square and coefficients of contingency analyses for each subpopulation are reported in Table 1. They show college attendance to be positively associated with a majority of

Table 1

Summary of Chi-Square (X^2) and Coefficient of Contingency (C) Analyses for Eleven Independent Variables and College Attendance, by Sex

Independent Variables	Significant X^2		C	
	Females	Males	Females	Males
1. Social Class (S.E.S.)	Yes	Yes	.25	.37
2. Size of High School	Yes	Yes	.23	.18
3. Education of Father	Yes	Yes	.32	.34
4. Education of Mother	Yes	Yes	.45	.38
5. Number of Siblings	Yes*	N.S.**	.22	.18
6. Marital Status	Yes	Yes	.43	.31
7. Residential Background	N.S.	Yes	.11	.18
8. Mental Aptitude	Yes	Yes	.39	.51
9. Education Aspirations	Yes	Yes	.39	.57
10. Vocational Aspirations	Yes	Yes	.42	.46
11. High School Curriculum	Yes	Yes	.52	.48

* Chi-square significant at the .05 level, all others at the .01 level.

** N.S. = Not significant at p = .05.

the independent variables. The notable exceptions are number of siblings for the male subpopulation and residential background for the female subpopulation. Complete tables are given in Appendix D. (Table 6-T suggests a relationship between education of mother and college attendance for varying levels of father's education.)

II. Correlation Analysis

The results of a correlation analysis are presented in Appendix E and summarized in Table 2. In the total sample, the following variables are positively associated with college attendance: educational aspirations, education of father, education of mother, marital status, mental aptitude, vocational aspirations, and high school curriculum. Continuing with the separate analysis for boys and girls one finds that all of these variables are significantly associated with college attendance rates for both subpopulations. Some interesting differences are revealed when the size of the correlations for the two groups are compared. Most notable among these are the markedly higher correlations with educational and vocational aspirations for boys compared with those of the girls. Table 2 also shows a higher correlation with mental aptitude for boys, and a higher correlation with education of mother for girls.

III. Regression Analyses

In order to illustrate more clearly the pattern and order of variables in predicting college attendance of boys and girls, a step regression was completed. Multiple R and R^2 values for each of these subpopulations are reported in Tables 3 and 4.

For the male and female subpopulations a different order of predictor variables appears, reflecting the greater responsiveness of girls to certain structural factors. The results of a step regression analysis show high school curriculum, marital status and mother's education contributing 46 percent of the explained variance in college attendance for the girls. The total variance explained with all seven variables is only slightly more at 48 percent. However, for the male subpopulation educational aspirations alone account for 49 percent of the explained variance. The relative size of the individual correlations among these variables are reported in the general matrix and in separate correlation matrices (Appendix E) for boys and girls. The analysis of the two environments also reveals some support for the general hypothesis. Multiple R and R^2 values for each of these subpopulations are given in Tables 5 and 6. In the environment with a lower proportion of professional occupations educational aspirations account for 36 percent of the explained variance. In the environment containing a higher proportion of professionals, the variables, high school curriculum and marital status

Table 2

Correlations Between College Attendance
and
Predictor Variables

Predictors of College Attendance	Total Sample N = 590	Female SubPopulation N_f = 333	Male SubPopulation N_m = 257
1. Socio-economic Status	.075	---	---
2. Size of High School	.045	---	---
3. Education of Father	.35	.32	.36
4. Education of Mother	.44	.46	.40
5. Number of Siblings	.17	---	---
6. Sex	.085	---	---
7. Marital Status	.39	.45	.33
8. Residential Background	-.085	---	---
9. Mental Aptitude	.45	.37	.55
10. Educational Aspirations	.55	.42	.71
11. Vocational Aspirations	.35	.20	.52
12. High School Curriculum	.49	.50	.50

Table 3

Contribution of Independent Variables
to
Explained Variance of College Attendance
for
Female Subpopulation (N = 333)

Variable	R	R^2
High School Curriculum	.498	.248
Marital Status	.615	.378
Education of Mother	.678	.460
Educational Aspirations	.688	.473
Mental Aptitude	.694	.482
Education of Father	.694	.482
Vocational Aspirations	.694	.482

Table 4

Contribution of Independent Variables
to
Explained Variance of College Attendance
for
Male Subpopulation (N = 257)

Variable	R	R^2
Educational Aspirations	.705	.497
Mental Aptitude	.735	.541
Marital Status	.756	.573
Education of Father	.770	.593
High School Curriculum	.774	.599
Education of Mother	.775	.601
Vocational Aspirations	.775	.601

yield 38 percent of the variance. Educational aspirations in contrast account for only 6.6 percent of the variance in college attendance of high school students within this (more professional) environment. It should also be noted that mental aptitude explains an additional 4.3 percent of the variance in the low professional environment, but in the more professional environment this variable adds only 2.2 percent to explained variance. In both environments, however, the sex variable appears to add little to predictive ability. Concerning family structure variables, one observes the relatively greater importance of mother's education in the less professional environment.

IV. Analysis of Covariance

Apart from the task of identifying changes in the relative order of the variables within each of the two environments, analysis was undertaken to determine if a difference in college attendance rates remains when one controls for other relevant independent variables. The technique used in this case is a statistical covariance model, which combines both the regression analysis used previously and a single classification analysis of variance. Unfortunately the restrictions of sample size serve to limit the number of variables that can be controlled. With sex and educational aspirations controlled a t value of 9.28 was obtained. This is highly significant, indicating that even with these variables controlled a significant difference in college attendance rates holds for the two environments.

Table 5

Contribution of Independent Variables to Explained Variance of College Attendance for the Environment With a Higher Proportion of Professional Occupations than the County (N = 334)

Variable	R	R^2
High School Curriculum	.508	.258
Marital Status	.617	.381
Educational Aspirations	.668	.447
Education of Mother	.687	.471
Mental Aptitude	.702	.493
Education of Father	.707	.500
Vocational Aspirations	.712	.507
Sex	.713	.509

Table 6

Contribution of Independent Variables to Explained Variance of College Attendance for the Environment With a Lower Proportion of Professional Occupations than the County (N = 256)

Variable	R	R^2
Educational Aspirations	.603	.364
Education of Mother	.679	.461
Mental Aptitude	.710	.504
Marital Status	.733	.537
High School Curriculum	.737	.543
Vocational Aspirations	.737	.543
Education of Father	.737	.543
Sex	.737	.543

DISCUSSION

A major purpose of the present research was to ascertain the relative importance of certain key personal and structural variables in predicting college attendance for a sample of high school graduates. The best single predictor for the overall sample remains educational aspirations or plans to go to college. But these aspirations are not uniformly distributed among all subpopulations of the sample. Female students, for example have higher levels of aspirations but lower rates of college attendance than male students. The relatively greater influence of mother's education as a predictive factor for girls is not generally established through past studies. Although the importance of the mother in transmitting educational values to children is generally commented upon, one would wish to control for social class to ascertain any possible class difference in the operation of this variable. Furthermore the question of status congruency or incongruency with respect to mother's and father's education is not fully elaborated upon in the present study due to the small sample size. Evidence was presented, however, to illustrate a relationship between education of mother and college attendance of boys and girls for varying levels of father's education. Despite these tentative results further analysis of the incidence of college attendance for the marginal cells (i.e., youth with fathers having high education and mothers with low and vice versa) is needed to clarify the relationship.

Emerging rather clearly from the analysis are the strong career orientations of the boys, as shown by the greater relative importance of educational aspirations in predicting college attendance for them. We also perceive a greater relative importance of the high school for girls and this both in terms of curriculum chosen, and the size of the school. The literature offers conflicting results on this variable. Boyle (1) for example reports that:

> "Finally the influence of the high school appears to be fairly similar for both sexes, although less important for girls."

Sewell (21) on the other hand offers reasons for an alternative hypothesis suggesting that girls are more susceptible to environmental determinants. Our results would appear to favor the latter hypothesis, recognizing that additional measures of the school environment are required.

With reference to the general environmental variable, the positive results are all the more startling when one realizes the limited range of variability within the study area.

Comparing the two environments, personal factors and in particular mental aptitude, assumes greater importance in the environment with a lower proportion of professionals. The same general pattern of relationships is described by Boyle (1):

> ". . . Scholastic development is an important explanation, . . . it is a sufficient explanation in smaller communities. but among high schools located in large metropolitan areas it provides only partial explanation."

An analysis of covariance established that the environment exercises an influence on the college attendance rates of high school graduates independent of their sex and educational aspirations. One is still left to conjecture as to the exact nature of these differences.

CONCLUSIONS

Cross tabular and correlation analysis showed college attendance of high school graduates to be related to all the independent variables. The pattern of relationships among these variables change when one uses sex of respondent as a control. Girls are more responsive to influences from the high school curriculum and mother's education than boys in the sample. They also provide less evidence of a career orientation characteristic of the boys. Boys are more responsive to educational aspirations with structural variables, such as education of mother, and marital status, exercising less influence for them.

Examining the two environments classified on the basis of their occupational structure (proportion of professionals) some support is found for the hypothesis that the environment characterized by a higher proportion of professional occupations will afford greater primacy to structural variables in predicting college attendance.

The results of this analysis, although hardly conclusive, would seem to suggest that programs designed to influence students' college plans must be cognizant of different patterns of influence for girls and boys. Changes in the environment or programs actively involving mothers may well be more effective for the girls. On the other hand boys may be more responsive to influences aimed directly at career orientation and educational aspirations. Recognition of marital status as a relevant variable influencing the college attendance rates of both sexes but especially girls, would suggest counselling designed to explore the implications of these decisions for future career plans of students.

Finally, having reference to the two social settings analyzed in the study, specific recommendations must await further analysis of the interrelationships among the variables. Larger samples and a greater range of social contexts are required. The fact that environment continues to exercise an influence, when two highly relevant and significant variables such as sex and educational aspirations are controlled, would certainly suggest that further consideration be given to exploring the ways in which students are experiencing these varying social contexts.

SUMMARY

The factors associated with aspiration levels and college attendance rates are examined for a sample of high school seniors from a relatively underdeveloped region. This study is specifically concerned with that class of variables variously referred to as social climate, social context or social environment, and attempts to determine if they exercise a separate influence on college attendance rates. The independent variables are conceptualized as social class, measured by socio-economic status; structural characteristics of the school system, measured by size of high school; structural characteristics of the family, measured by number of siblings, education of mother and education of father; status characteristics such as sex, marital status and place of residence; and, finally, personal characteristics including mental aptitude, educational aspirations, and vocational aspirations. The social climate or environment variable dealt with the proportion of professional occupations in the townships associated with the high school's location.

The longitudinal design employed permits a follow-up of the high school student sample three years after graduation. The 75 percent response to the mailed questionnaire yielded a working sample of 590 respondents. Comparisons of the two samples on certain key variables gave assurance that any bias due to selectivity was within reason. Both cross tabular and correlation analyses were used in testing the hypotheses. An analysis of covariance model was employed to test the effect of the social environment.

Initially, the higher educational aspiration levels for girls, compared with boys, led to the use of sex as a control variable. The independent variables previously mentioned were all found to be associated with college attendance. Number of siblings, however, was significant only for the girls and residential background only for the boys. The results of a step regression technique show a different pattern of factors associated with college attendance for male and female subpopulations. High school curriculum and education of mother, for example, are more important for girls; educational aspirations and mental aptitude are more important for boys. In addition, marital status was more highly associated with the college attendance rates of girls.

A similar analysis was completed for the two environments which were characterized as high and low in proportion of professional occupations. Educational aspirations and education of mother were found to be more highly associated with college attendance in the environment with a lower proportion of professionals.

Finally, an analysis of covariance, controlling for sex and educational aspirations, produced a significant difference in

college attendance rates for the two environments. Given the relatively underdeveloped character of the whole county, and thus the limited variability between environments, this result is quite striking. The small sample size prevented the use of more than two control variables at one time. N rtheless, this finding would suggest that a possibility for further research to explore the ways in which students experience varying social contexts.

The results of this study suggest that programs concerned with encouraging students to attend college should take into account the different patterns of influence for boys and girls. Activities involving mothers may be more effective for the girls, while boys may be more responsive to programs aimed directly at career orientation.

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APPENDIX A

1965 QUESTIONNAIRE FOR FOLLOW-UP

Survey of 1962 High School Graduates

PART I: GENERAL

(Please disregard the numbers in parentheses as they are only placed to help us in tabulating the results.)

1. Name _____
(Last) (First) (Middle) (Maiden)

(Col. 8) 2. Marital Status: (Check One)
(1) _____ Single
(2) _____ Married
(3) _____ Separated or Divorced
(4) _____ Widowed

PART II: LOCATION OF YOUR RESIDENCE

(If you are a student and reside at the university during the majority of the year, please use that location as your current residence when answering questions in this part.)

(Col. 9) 3. Do you now live at the same address as when you graduated from high school? (Check One)
(1) _____ Yes, I live at the same address
(2) _____ No, I do not live at the same address

4. The location of your current residence is in, or near

_____
(Town or City) (State)

(Col. 10) 5. About how long have you lived at your current residence? (Check One)
(1) _____ Less than 6 months
(2) _____ More than $\frac{1}{2}$ year but less than a year
(3) _____ More than a year but less than 3 years
(4) _____ More than 3 years

(Col. 11) 6. Into which category would the location of your residence best fit: (Check One)

(1) _____ Rural area, on a farm
(2) _____ Rural area, not on a farm
(3) _____ Village, population less than 5,000
(4) _____ City, population between 5,000 and 20,000
(5) _____ City, population between 20,001 and 50,000
(6) _____ City, population between 50,001 and 100,000
(7) _____ City, population between 100,001 and 1,000,000
(8) _____ City, population over 1,000,000

(Col. 12) 7. How far is the location of your current residence from your residence when you graduated from high school? (Check One)

(1) _____ None, same residence
(2) _____ Less than 5 miles
(3) _____ 5 to 50 miles
(4) _____ 51 to 200 miles
(5) _____ 201 to 500 miles
(6) _____ 501 to 1,000 miles
(7) _____ 1,001 miles or more

PART III: TYPE OF OCCUPATION

(If you are a student during the majority of the year, please consider this as your current occupation when answering questions in this part, even though you may now have a temporary summer job)

(Col. 14) 8. What do you do now? (Check and answer only one section (a, b, c, d, or e) as it applies to you)

a. (1) _____ I am a homemaker and do not work outside the home.

b. (2) _____ I am attending college.
Name of College or University _____
Major area of study (Col. 15) _____

c. (3) _____ I am in military service.

d. (4) _____ I am working.
(a) Into which category could your present occupation best be classified: (Check One) (Col. 16)
(1) _____ Professional or technical (teacher, nurse, chemical engineer)
(2) _____ Businessman, proprietor, manager
(3) _____ Clerical or secretarial
(4) _____ Sales worker or agent
(5) _____ Farm owner or manager

(6) _____ Craftsman, foreman, or skilled machine operator
(7) _____ Industrial laborer, including mining
(8) _____ Farm laborer
(9) _____ Service worker (hospital attendant, fireman, custodian, barber, etc.)
_____ Other, what _____

(b) Your specific job is:
_____ for _____
(Type of occupation; be specific, like typist, auto mechanic, etc.) (Name of company)

e. (5) _____ I am unemployed and looking for work.
(Into which category would your last job best be classified: (Check One) (Col. 17)
(1) _____ Professional, or technical (teacher, nurse, chemical engineer)
(2) _____ Businessman, Proprietor, Manager
(3) _____ Clerical or secretarial
(4) _____ Sales worker or agent
(5) _____ Farm owner or manager
(6) _____ Craftsman, foreman or skilled machine operator
(7) _____ Industrial laborer, including mining
(8) _____ Farm laborer
(9) _____ Service worker (hospital attendant, fireman, custodian, barber, etc.)
(0) _____ Student
(X) _____ No previous job
_____ Other, what _____

PART IV: PLANS FOR THE FUTURE

(Col. 18) 9. Do you expect to move to a different location within the next year or two: (Check One)
(1) _____ No, I do not intend to move
(2) _____ Yes, I do intend to move
If yes, where do you plan to move? _____
_____
(Location--city or section of state or country; be as specific as possible)

10. What type of occupation do you expect to have about five years from now?

_____

(Be as specific as possible, for example, housewife, auto mechanic, electrical engineer, etc.)

(Col. 19) 11. Into which category could your expected occupation listed in Question 10 best be classified? (Check One)

(1) _____ Professional or technical (teacher, nurse, chemical engineer)
(2) _____ Businessman, proprietor, manager
(3) _____ Clerical or secretarial
(4) _____ Sales worker or agent
(5) _____ Farm owner or manager
(6) _____ Craftsman, foreman, or skilled machine operator
(7) _____ Industrial laborer, including miner
(8) _____ Farm laborer
(9) _____ Service worker (hospital attendant, fireman, custodian, barber, etc.)
(0) _____ Housewife
_____ Other, what _____

FORM FOR INFORMATION OBTAINED FROM HIGH SCHOOL RECORDS, 1965

_____
(Number)

1. Student's name _____

2. High School Attended _____

   Graduated 1. Yes _____
   2. No _____

3. I.Q. _____

4. High School grade average _____

5. Rank in class by grade average: _____ in class of _____

   1. _____ Upper 1/3
   2. _____ Middle 1/3
   3. _____ Lower 1/3

6. Major curriculum followed:

   1. _____ College Preparatory
   2. _____ Commercial Business
   3. _____ Vocational Agriculture
   4. _____ Home Economics
   5. _____ Vocational Industries
   6. _____ General
   7. _____ Other (Specify) _____

7. Vocational courses completed in high school:

	Number of Courses
1. Home Economics	_____
2. Vocational Agriculture	_____
3. Shop-Vocational Industry	_____
4. Commercial Business	_____

8. Most Recent Address:

9. Present Address:

1. _____Same as high school address
2. _____In county, but not same as high school address
3. _____Out of county, in upstate New York
4. _____New York City
5. _____Out of state, but in U.S.
6. _____In Canada
7. _____Outside of U. S. and Canada

APPENDIX B

Table 1 Eighteen Study High Schools by Size of Defined Population, Final Number in 1962 and 1965 Samples, Percentage Coverage for Each Sample, Total and Sample Means of Cumulative Grade Average, and Proportion of Males in Total and Samples

School (ranked by size of sen-	Total enrolled and defined as population	Number in 1962 Sample	Percentage response for 1962 Sample	Number in 1965 Sample	Percentage response coverage to 1965 mailed questionnaire
1	254	116	45.7	83	71.6
2	128	62[d,e]	48.4	48	77.4
3	119	43	36.1	34	79.1
4	113	81[e]	71.7	53	65.4
5	95	88	92.6	63	71.6
6	85	72	84.7	57	79.2
7	82	71	86.7	53	74.6
8	50	25	50.0	22	88.0
9	37	34	91.9	28	82.4
10	35	34	97.1	28	82.4
11	35	29	82.9	17	58.6
12	30	29	96.7	23	79.3
13	24	22	91.7	18	81.8
14	23	17	74.0	15	88.2
15	20	19	95.0	16	84.2
16	20	18	90.0	12	66.7
17	17	15[d]	88.2	10	66.7
18	15	15[e]	100.0	10	66.7
Total	1182	790	66.9	590	74.7

[a]No information for one case.

[b]These figures are for ranks in terms of class grades rather than numerical grades.

[c]No information for two cases.

[d]One individual deceased by 1965.

[e]Did not send to one individual as he was either a terminal patient or in a mental institution.

[f]No information available for these schools.

[g]Three and one-half year cumulative grade average used.

[h]Final cumulative grade average used in most cases.

Table 1 - Continued

Cumulative Grade Average				
1962 Sample[g] n = 790	1965 Sample[h] n = 590	Total[g] population	Difference between sample average and population average 1962	1965
80.7[a]	81.7[c]	80.2[a]	+0.5	+1.5
66.0[b]	f	64.4[b]	+1.6[b]	f
78.3[a]	78.4	80.4[c]	-2.1	-2.0
80.1[c]	81.1	79.3[c]	+0.8	+1.8
79.1[c]	79.9	78.6[c]	+0.5	+1.3
75.7	76.3	75.9	-0.2	+0.4
80.6	83.8[a]	80.3	+0.3	+3.5
80.8[a]	80.6	79.5[a]	+1.3	+1.1
80.3	78.9	80.2	+0.1	-1.3
80.1	80.6	80.1	0.0	+0.5
80.2	81.0	79.9	+0.3	+1.1
79.9	80.8	79.6	+0.3	+1.2
79.4	80.0	79.0	+0.4	+1.0
78.9	70.5	79.2	-0.3	-8.7
79.0	80.0	79.0[a]	0.0	+1.0
79.7	79.9	79.6[a]	+0.1	+0.3
83.4[a]	f	82.3[a]	+1.1	f
81.3	82.3	81.3	0.0	+1.0

Table 1 - Continued

Proportion of Males					
1962 Sample n = 790	1965 Sample n = 590		Total population	Difference between sample average and population average 1962	1965
	Percent	Number			
40.5	31.3	26	47.2	- 6.7	-15.9
43.5	41.7	20	53.1	- 9.6	-11.4
69.8	67.6	23	60.4	+ 9.4	+ 7.2
53.1	47.2	25	54.9	- 1.8	- 7.7
45.5	41.3	26	46.3	- 0.8	- 5.0
47.2	45.6	26	45.9	+ 1.3	- .3
49.3	43.4	23	53.7	- 4.4	-10.3
44.0	40.9	9	46.0	- 2.0	- 5.1
44.1	42.9	12	45.9	- 1.8	- 3.0
55.9	46.4	13	54.3	+ 1.6	- 7.9
37.9	35.3	6	40.0	- 2.1	- 4.7
41.4	30.4	7	43.4	- 2.0	-13.0
36.3	27.8	5	41.6	- 5.3	-13.8
70.6	66.7	10	65.2	+ 5.4	+ 1.5
78.9	75.0	12	70.0	+ 8.9	+ 5.0
61.1	50.0	6	65.0	- 3.9	-15.0
20.0	20.0	2	35.3	-15.3	-15.3
60.0	60.0	6	66.7	- 6.7	- 6.7
48.4	43.6	257	51.2	- 2.8	- 7.6

APPENDIX C

OPERATIONAL DEFINITIONS OF THE VARIABLES

College Attendance:

The major dependent variable of this research was derived from responses to the following question on occupation, in the 1965 questionnaire:

What do you do now?

a. _____I am a homemaker and do not work outside the home.
b. _____I am attending college.
Name of College or University _____
Major area of study _____
c. _____I am in military service.
d. _____I am working.
e. _____I am unemployed or looking for work.

For the present study, where interest was in college attendance rather than occupation, the above categories were collapsed to provide two groupings: 1) those respondents who were students in 1965 (b) and 2) those respondents who were not attending college in 1965 (a,c,d,e). In the cross tabular analysis, however, the homemakers category (a) was retained as a separate category for the girls because of its special relevance as an alternative to attending college. As the questionnaire was administered in the month of August when college students may have part-time jobs, respondents who were students during the majority of the year were requested not to check this category (D).

Educational Aspirations:

In May, 1962, respondents were asked:

After you finish high school, do you plan to:

a. _____Go to school or college this fall? Where? _____
b. _____Get a job?
c. _____Enter the armed services? When do you plan to enter and how long do you plan to stay in?
d. _____Other (Specify) _____

From information provided in a, it was possible to separate those who planned to attend a four-year accredited institution from those who were planning to go to trade school or two-year colleges. For cross tabular analysis, the "two-year planners" were retained in a separate category; in the remainder of the analysis, they were

treated as non-planners.

Socio-economic Status:

The socio-economic status of the family was derived from responses to a question in the 1962 questionnaire on the occupation of the father or guardian. The question was stated as follows:

> What is the title of your father's (guardian's) main occupation?
>
> (If not working, state this) _____
>
> Exactly what does he do? _____
>
> Does he operate any special machine(s)? (Typewriter, bulldozer, etc.) Yes _____ No _____ What? _____
> What company does he work for? _____
> Does he have a part-time job? Yes _____ No _____ What? _____

This information was used to assign the occupation a score from the socio-economic index developed by Duncan. This scoring system is based on an intensive analysis of 1950 census data and scores (from 0 to 99) for the occupations are calculated using education and income data on individuals holding the occupations. For the present analysis, scores were assigned to four categories of socio-economic status, ranging from low to high (0-19, 20-39, 40-59, 60 and over).

Size of High School:

The size of the graduating class with which the individual graduated provided the basis for this index. This information was obtained from high school records. As none of the schools in the county are exceptionally large, breaking points were established to ensure a relatively uniform distribution. The categories and number of schools in each one are:

Size	Number of Schools
>100	4
51 - 100	3
25 - 50	5
<25	6

The range of high school size for this population is 15 - 254.

Education of Father and Mother

While the Duncan socio-economic score considers education (of the father or guardian), it was felt that the education of each of the parents might also be predictive within the framework of this research. The data were indexed from respondents' replies regarding the number of years of school or college completed by each parent. The resulting four categories of level of education are: 1) at least some college, 2) high school graduate, 3) more than 8 years of school but less than 12, 4) 8 years or less.

Number of Siblings

Respondents (1962) were asked to indicate the number of brothers and sisters in the family, whether at home or away. The categories used in the analysis were: 1) no brothers or sisters, 2) one sibling, 3) two siblings, 3) 3 siblings, 4) four or more.

Marital Status:

Respondents to the 1965 questionnaire were asked to check one of the following categories 1) single, 2) married, 3) separated or divorced, 4) widowed. As there were only five cases in 3 and 4, they were included in the married category for purposes of this study.

Residential Background:

The indicator for the residential background was the location of domicile indicated by respondents at the time of graduation from high school. As there are no cities of more than 20,000 in the county, respondents were asked to identify their residence as being 1) on a farm or open country, 2) in a village or city.

Mental Aptitude Index:

While I.Q. is probably the best measure available of an individual's innate ability, it does not take full account of the working habits which an individual develops to compliment this ability. Grades thus provide a further understanding of ability. For this research, the two dimensions were combined into one concept. (The data verified that the two aspects were empirically interrelated.) Thus, "mental aptitude" combines and includes both I.Q. and grade average.

The I.Q. scores obtained from high school records were not all from the same test, as different tests were used by the various school systems involved. Where possible, I. Q. scores were obtained

(1) when the individual was in the tenth grade (this being the time the majority of the schools administer the last I. Q. test to their students), and (2) a score from the Otis-Beta test. For a few of the schools, however, the Lorge Thorndike or Otis Gamma scores had to be used. Several guidance directors experienced in administering I. Q. tests indicated that an individual would score similarily on the different kinds of tests; thus, this shortcoming does not appear serious.

The rank of the student in his class by high school grade average was used as the indicator of his grades. This information was also obtained from high school records.

The I. Q. and rank in class were combined as shown:

GRADES - RANK IN CLASS				
	Highest Quartile	2nd Quartile	3rd Quartile	Lowest Quartile
Highest Quartile	1	1	2	3
2nd Quartile	1	2	3	4
3rd Quartile	1	2	3	4
Lowest Quartile	2	3	4	4

The cells are ranked from 1-4 (high to low) on the degree of mental ability, giving slightly more weight to grades.

Vocational Aspirations

The variable, vocational aspirations, is indexed from replies to the question: "What kind of work would you like to be doing ten years from now?" As this question was asked in 1962, responses refer to vocational aspirations for 1972, ten years after high school graduation. The responses were originally placed in ten categories: 1)

don't know, 2) professional, technical, 3) managerial, official, proprietor (all non-farm), 4) farmer, farm manager, 5) sales, clerical and kindred, 6) skilled labor, 7) unskilled labor, 8) services, 9) military service, 10) housewife. These categories were retained during the cross tabular analysis but collapsed into three categories for the later analysis because of the small number of cases in some categories. These categories were: 1) professional, 2) managerial, farmer, sales and clerical, and (3,4,5) a residual category for the remaining classes with the exception of the "don't knows" which were considered as no information.

High School Curriculum

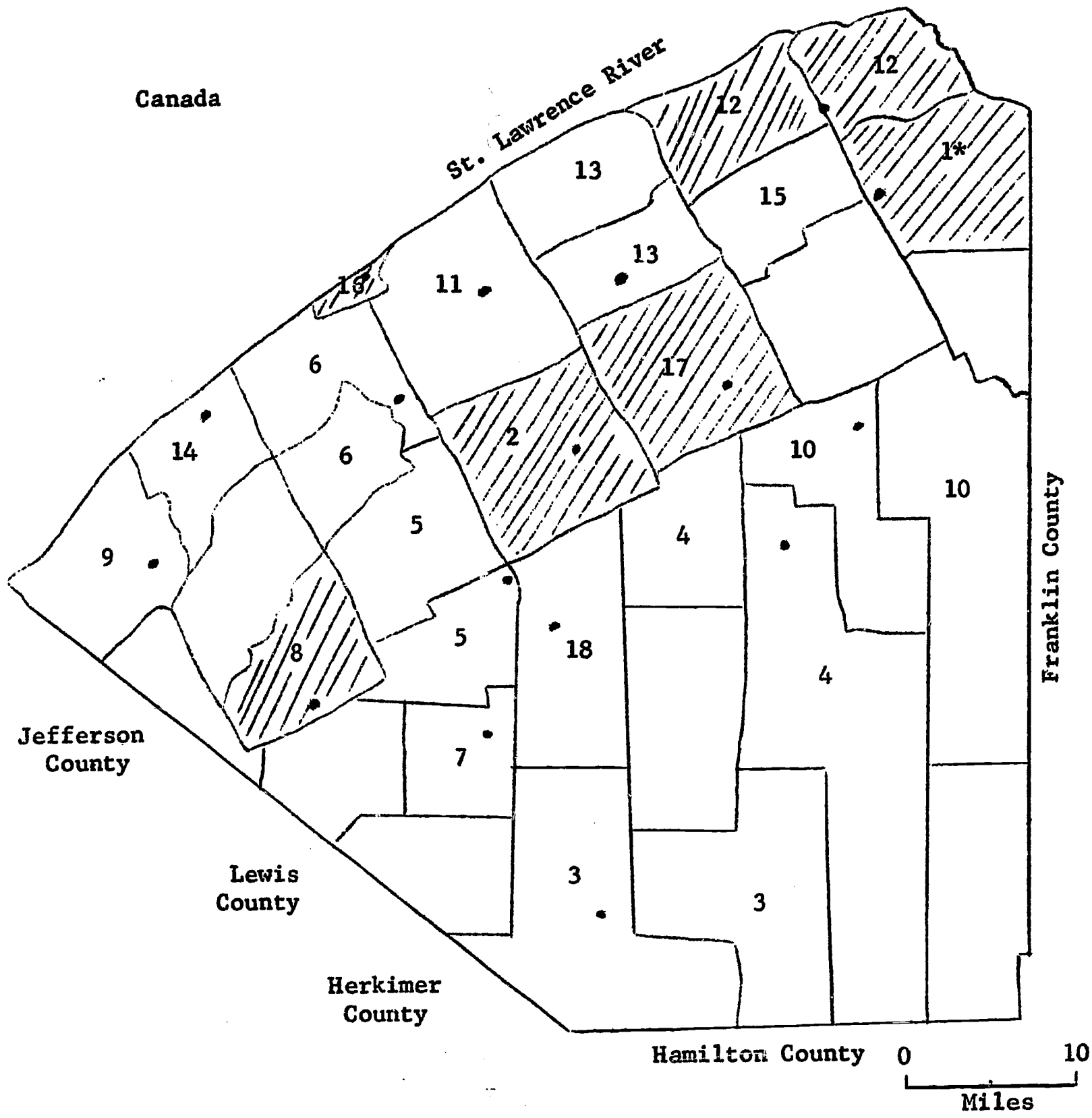
The high school curriculum followed by each respondent was indicated as one of the following: 1) regents or college preparatory, 2) commercial or business, 3) agriculture, 4) general, 5) home economics, and 6) shop. In the present study, 3, 4, 5, and 6 were collapsed into one residual category, as they contained too few categories to be treated separately.

Environment

The index of environment was derived from census data on the labor force in the cities, villages, and townships associated with each high school's location. The pertinent data is present in Figure 1 and Table 1. The townships associated with each high school were ascertained as nearly as possible on the basis of geographical location. In some cases, the name of the high school suggested which townships should be included; for example, the townships associated with Clifton-Fine high school were considered to be Clifton and Fine. Census data for townships which could not be thus assigned to high school contexts was not used. As the townships thus eliminated were largely rural, this procedure should tend to work against the hypotheses.

The proportion of the labor force in professional and farm occupations was determined for each school context, and this proportion compared with the percentages in the county as a whole. Two environments were thus obtained, one with a higher proportion of professional occupations than the county and one with a lower proportion of professional occupations than the county. It will be noted from Table 1 that all of the school contexts with a higher percentage of professionals than the county had a lower percentage of farm occupations. A rank correlation coefficient of .70 was obtained when the contexts were ordered from high to low on percentage professional and from low to high on percentage farm.

Figure 1
Map of St. Lawrence County
with
Locations of High Schools and Township Boundaries
used in
Developing Index of Environment



*Numbers refer to school context number as used in Table B. Unnumbered townships were not included in the index.

•Actual location of high schools.

The environment with a higher proportion of professional occupations.

Table 1
Percentages of Labor Force in Professional and Farm Occupations
for
Each High School Context

Name of High School	Cities (C), Villages (V), Townships (T) in High School Context	School Context Number	Number Employed	Percentage in Professional Occupations	Higher (H) or Lower (L) than County (12.4%)	Percentage in Farm Occupations	Higher (H) or Lower (L) than County (7.6%)
St. Lawrence Central	Brasher (T)	1	641	14.7	H	5.0	L
Canton	Canton (T)	2	4473	19.7	H	5.5	L
Clifton-Fine	Clifton (T) Fine (T)	3	1185	11.1	L	0.4	L
Colton-Pierrepont	Colton (T) Pierrepont (T)	4	730	10.1	L	8.1	H
Hermon-DeKalb	Hermon (T) DeKalb (T)	5	1032	7.9	L	21.7	H
Heuvelton	DePeyster (T) Oswegatchie (T)	6	1235	6.9	L	19.8	H
Edwards	Edwards (T)	7	440	12.1	L	15.5	H

Gouverneur	Gouverneur (T) Gouverneur (V)	8	3934	12.4	H	3.8	L
Hammond	Hammond (T)	9	422	10.1	L	35.8	H
Parishville-Hopkinton	Hopkinton (T) Parishville (T)	10	665	8.0	L	17.8	H
Lisbon	Lisbon (T)	11	1048	7.6	L	28.0	H
Massena	Louisville (T) Massena (T) Massena (V)	12	11,342	13.5	H	0.7	L
Madrid-Waddington	Madrid (T) Waddington (T)	13	977	11.9	L	16.6	H
Morristown	Morristown (T)	14	534	11.6	L	22.0	H
Norwood-Norfolk	Norfolk (T)	15	1032	10.3	L	1.9	L
Ogdensburg Free Academy	Ogdensburg (C)	16	4786	13.4	H	0.1	L
Potsdam	Potsdam (T) Potsdam (V)	17	6644	18.6	H	2.4	L
Knox Memorial	Russell (T)	18	420	5.3	L	16.5	H

Source: N. Y. State Department of Commerce: Business Fact Book: 1963. Northern Area: Population and Housing, p. 13.

APPENDIX D

Table 1-F College Attendance of Female Subpopulation
and
Educational Aspirations

College Attendance	Educational Aspirations: Plans to go to college		Educational Aspirations: No Plans to go to college		Total	
Yes	44.52	(69)*	7.04	(10)	26.60	(79)
No	55.48	(86)	92.96	(132)	73.40	(218)
Total	100.00	(155)	100.00	(142)	100.00	(297)**

*Numbers shown in brackets are the actual number of persons in that category. Other numbers indicate percentages.
**No information on college attendance for 15 respondents.
No information on educational aspirations for 21 respondents.

$C = .39$ $X^2 = 53.30$ d.f. = 1 $p < .01$

Table 1-M College Attendance of Male Subpopulation
and
Educational Aspirations

College Attendance	Educational Aspirations: Plans to go to college		Educational Aspirations: No Plans to go to college		Total	
Yes	74.74	(71)*	6.57	(9)	34.48	(80)
No	25.26	(24)	93.43	(128)	65.52	(152)
Total	100.00	(95)	100.00	(137)	100.00	(232)**

*Same as Table 1F
**No information on college attendance for 10 respondents
No information on educational aspirations for 15 respondents

$C = .57$ $X^2 = 115.39$ d.f. = 1 $p < .01$

Table 2-F College Attendance of Female Subpopulation
and
Socio-economic Status of Family

College Attendance	Socio-economic Status of Family: Low 0 - 19		Low-Middle 20 - 39		High-Middle 40 - 59		High 60 - 99		Total	
Yes - student in 1965	22.12	(23)*	18.97	(11)	34.25	(25)	51.28	(20)	28.83	(79)
No - Working or in Military Service	37.50	(39)	48.28	(28)	41.10	(30)	28.21	(11)	39.42	(108)
No - Home-maker	40.38	(42)	32.76	(19)	24.66	(18)	20.51	(8)	31.75	(87)
Total	100.00	(104)	100.00	(58)	100.00	(73)	100.00	(39)	100.00	(274)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.
No information on socio-economic status of family for 44 respondents.

$X^2 = 18.86$ d.f. = 6 $p < .01$
$C = .25$

Table 2-M College Attendance of Male Subpopulation
and
Socio-economic Status of Family

College Attendance	Socio-economic Status of Family: Low 0 - 19		Low-Middle 20 - 39		High-Middle 40 - 59		High 60 - 99		Total	
Yes - student in 1965	22.08	(17)*	13.95	(6)	51.56	(22)	61.54	(32)	35.81	(77)
No - working or in Military Service	77.92	(60)	86.05	(37)	48.84	(21)	38.46	(20)	64.19	(138)
Total	100.00	(77)	100.00	(43)	100.00	(43)	100.00	(52)	100.00	(215)**

*Same as Table 1-F

**No information on college attendance for 10 respondents.
No information on socio-economic status of family for 32 respondents.

$X^2 = 34.64$ d.f. = 3 $p < .01$
C =.37

Table 3-F College Attendance of Female Subpopulation
and
Size of High School

College Attendance	Size of High School: Large		Large-Medium		Medium-Small		Small		Total	
Yes - student in 1965	20.34	(24)*	33.70	(31)	19.12	(13)	32.50	(13)	25.47	(81)
No - Working or in Military Service	50.85	(60)	32.61	(30)	32.35	(22)	30.00	(12)	38.99	(124)
No - Homemaker	28.81	(34)	33.70	(31)	48.53	(33)	37.50	(15)	35.53	(113)
Total	100.00	(118)	100.00	(92)	100.00	(68)	100.00	(40)	100.00	(318)**

*Same as Table 1-F
**No information on college attendance for 15 respondents

$X^2 = 17.19$ d.f. = 6 $p < .01$
$C = .23$

Table 3-M College Attendance of Male Subpopulation
and
Size of High School

College Attendance	Size of High School: Large		Large-Medium		Medium-Small		Small		Total	
Yes - student in 1965	40.45	(36)*	36.99	(27)	17.78	(8)	25.00	(10)	32.79	(81)
No - Working or in Military Service	59.55	(53)	63.01	(46)	82.22	(37)	75.00	(30)	67.21	(166)
Total	100.00	(89)	100.00	(73)	100.00	(45)	100.00	(40)	100.00	(247)**

*See Table 1-F
**No information on college attendance for 10 respondents.

$X^2 = 8.66$ d.f. = 3 $p < .05$
$C = .18$

Table 4-F College Attendance of Female Subpopulation
and
Education of Father

College Attendance	Education of Father: 8 years or less	8+ but less than 12 yrs.	High School Graduate	At least Some College	Total
Yes - student in 1965	12.50 (9)*	20.97 (13)	30.67 (23)	54.72 (29)	28.24 (74)
No - Working or in Military Service	44.44 (32)	38.71 (24)	38.67 (29)	28.30 (15)	38.17 (100)
No - Homemaker	43.06 (31)	40.32 (25)	30.67 (23)	16.98 (9)	33.59 (88)
Total	100.00 (72)	100.00 (62)	100.00 (75)	100.00 (53)	100.00 (262)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.
No information on education of father or father dead for 56 respondents.

$X^2 = 30.19$ d.f. = 6 $p < .01$
$C = .32$

Table 4-M College Attendance of Male Subpopulation
and
Education of Father

College Attendance	Education of Father: 8 years or less		8+ but less than 12 yrs.		High School Graduate		At Least Some College		Total	
Yes - student in 1965	13.04	(6)*	25.00	(12)	38.71	(24)	61.54	(32)	35.58	(74)
No - Working or in Military Service	86.96	(40)	75.00	(36)	61.29	(38)	38.46	(20)	64.42	(134)
Total	100.00	(46)	100.00	(48)	100.00	(62)	100.00	(52)	100.00	(208)**

*Same as Table 1-F
**No information on college attendance of 10 respondents.
No information on education of father or father dead for 39 respondents.

$X^2 = 28.09$ d.f. = 3 $p < .01$
$C = .34$

Table 5-F College Attendance of Female Subpopulation
and
Education of Mother

College Attendance	Education of Mother: 8 years or less		8+ but less than 12 yrs.		High School Graduate		At least Some College		Total	
Yes - student in 1965	2.33	(1)*	8.33	(6)	23.66	(22)	60.56	(43)	25.81	(72)
No - working or in Military Service	53.49	(23)	52.78	(38)	35.48	(33)	22.54	(16)	39.43	(110)
No - Homemaker	44.19	(19)	38.89	(28)	40.86	(38)	16.90	(12)	34.77	(97)
Total	100.00	(43)	100.00	(72)	100.00	(93)	100.00	(71)	100.00	(297)**

*Same as Table 1-F
**No information on college attendance of 15 respondents
No information on education of mother or mother dead for 39 respondents

$X^2 = 70.98$ d.f. = 6 $p < .01$
$C = .45$

Table 5-M College Attendance of Male Subpopulation
and
Education of Mother

College Attendance	Education of Mother: 8 years or less		8+ but less than 12 yrs.		High School Graduate		At Least Some College		Total	
Yes - student in 1965	9.52	(2)*	16.00	(8)	35.14	(26)	62.90	(39)	36.23	(75)
No - Working or in Military Service	90.48	(19)	84.00	(42)	64.86	(48)	37.10	(23)	63.77	(132)
Total	100.00	(21)	100.00	(50)	100.00	(74)	100.00	(62)	100.00	(207)**

*Same as Table 1-F
**No information on college attendance for 10 respondents.
No information on education of mother or mother dead for 40 respondents.

$X^2 = 34.47$ d.f. = 3 $p < .01$
$C = .38$

Table 6-T Percentages of Total Population Attending College
by
Education of Mother and Father

Education of Mother	Education of Father: At Least Some College		High School Graduate		8+ but less than 12 yrs.		8 years or less		Total	
At least some college	69.49	(59)*	62.50	(32)	63.16	(19)	46.67	(15)	27.90	(125)
High School Graduate	45.45	(33)	27.03	(74)	23.08	(26)	20.83	(24)	35.04	(157)
8+ but less than 12 yrs.	14.29	(7)	16.67	(18)	12.50	(48)	8.33	(36)	24.33	(109)
8 years or less	50.00	(2)	20.00	(5)	7.69	(13)	0.0	(37)	12.72	(57)
Total	22.54	(101)	28.79	(129)	23.66	(106)	25.00	(112)	99.99	(448)**

*Same as Table 1-F
**No information on college attendance for 25 respondents.
No information on education of mother and/or father for 117 respondents, 83% of which were respondents who did not attend college.

Table 7-F College Attendance of Female Subpopulation
and
Number of Siblings

College Attendance	Number of Siblings: None	One	Two	Three	Four or more	Total
Yes - student in 1965	40.00 (6)*	30.00 (15)	31.58 (24)	29.03 (18)	15.65 (18)	25.47 (81)
No - Working or in Military Service	40.00 (6)	38.00 (19)	44.74 (34)	32.26 (20)	39.13 (45)	38.99 (124)
No - Homemaker	20.00 (3)	32.00 (16)	23.68 (18)	38.71 (24)	45.22 (52)	35.53 (113)
Total	100.00 (15)	100.00 (50)	100.00 (76)	100.00 (62)	100.00 (115)	100.00 (318)**

*See Table 1-F
**No information on college attendance for 15 respondents.

$X^2 = 16.21$ d.f. = 8 $p < .05$
$C = .22$

Table 7-M College Attendance of Male Subpopulation
and
Number of Siblings

College Attendance	Number of Siblings: None	One	Two	Three	Four or more	Total
Yes - student in 1965	37.50 (6)*	40.38 (21)	41.38 (24)	33.33 (15)	20.55 (15)	33.20 (81)
No - working or in Military Service	62.50 (10)	59.62 (31)	58.62 (34)	66.67 (30)	79.45 (58)	66.80 (163)
Total	100.00 (16)	100.00 (52)	100.00 (58)	100.00 (45)	100.00 (73)	100.00 (244)**

*Same as Table 1-F

**No information on college attendance for 10 respondents.
No information on number of siblings for 3 respondents.

$X^2 = 8.36$ d.f. = 4 $p > .05$
$C = .18$

Table 8-F College Attendance of Female Subpopulation and Marital Status

College Attendance	Marital Status: Single		Married		Total	
Yes	46.63	(69)*	7.10	(12)	25.47	(81)
No	53.37	(80)	92.90	(157)	74.53	(237)
Total	100.00	(149)	100.00	(169)	100.00	(318)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.

$X^2 = 74.12$ d.f. = 1 $p < .01$
$C = .43$

Table 8-M College Attendance of Male Subpopulation and Marital Status

College Attendance	Single		Married		Total	
Yes	42.53	(74)*	9.59	(7)	32.79	(81)
No	57.47	(100)	90.41	(66)	67.21	(166)
Total	100.00	(174)	100.00	(73)	100.00	(247)**

*Same as Table 1-F
**No information on college attendance for 10 respondents.

$X^2 = 25.34$ d.f. = 1 $p < .01$
$C = .31$

Table 9-F College Attendance of Female Subpopulation
and
Residential Background

College Attendance	Residential Background: Rural		Urban		Total	
Yes - student in 1965	26.43	(37)*	25.14	(44)	25.71	(81)
No - Working or in Military Service	32.86	(46)	43.43	(76)	38.73	(122)
No - Homemaker	40.71	(57)	31.43	(55)	35.56	(112)
Total	100.00	(140)	100.00	(175)	100.00	(315)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.
No information on residential background for 3 respondents.

$X^2 = 4.18$ d.f. = 2 $p > .05$
$C = .11$

Table 9-M College Attendance of Male Subpopulation and Residential Background

College Attendance	Residential Background: Rural		Urban		Total	
Yes - student in 1965	23.64	(26)*	40.44	(55)	32.93	(81)
No - Working or in Military Service	76.36	(84)	59.56	(81)	67.07	(165)
Total	100.00	(110)	100.00	(136)	100.00	(246)**

*Same as Table 1-F

**No information on college attendance for 10 respondents.
No information on residential background for 1 respondent.

$X^2 = 7.78$ d.f. = 1 $p < .01$
$C = .18$

Table 10-F College Attendance of Female Subpopulation and Mental Aptitude

College Attendance	Mental Aptitude Index: High 1		High-Middle 2		Low-Middle 3		Low 4		Total	
Yes - student in 1965	49.12	(56)*	16.13	(10)	10.77	(7)	8.82	(6)	25.57	(79)
No - Working or in Military Service	29.82	(34)	40.32	(25)	50.77	(33)	42.65	(29)	39.16	(121)
No - Homemaker	21.05	(24)	43.55	(27)	38.46	(25)	48.53	(33)	35.28	(109)
Total	100.00	(114)	100.00	(62)	100.00	(65)	100.00	(68)	100.00	(309)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.
No information on mental aptitude for 9 respondents.

$X^2 = 56.25$ d.f. = 6 $p < .01$
$C = .39$

Table 10-M College Attendance of Male Subpopulation
and
Mental Aptitude

College Attendance	Mental Aptitude: High 1		High-Middle 2		Low-Middle 3		Low 4		Total	
Yes - student in 1965	66.29	(59)*	25.00	(12)	6.25	(3)	4.00	(2)	32.34	(76)
No - Working or in Military Service	33.71	(30)	75.00	(36)	93.75	(45)	96.00	(48)	67.66	(159)
Total	100.00	(89)	100.00	(48)	100.00	(48)	100.00	(50)	100.00	(235)**

*Same as Table 1-F
**No information on college attendance for 10 respondents.
No information on mental aptitude for 12 respondents.

$X^2 = 8\text{L}.35$ d.f. = 3 $p < .01$
$C = .51$

Table 11-F College Attendance of Female Subpopulation
and
Vocational Aspirations

College Attendance	Vocational Aspirations										
	Don't know	Professional	Managerial	Farmer	Sales Clerical	Skilled Laborer	Unskilled Laborer	Services	Military Service	Housewife	Total
Yes -student in 1965	14.81 (4)*	51.43 (36)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2.78 (1)	0 (0)	31.62 (37)	26.00 (78)
No - Working or in Military Service	48.15 (13)	32.86 (23)	50.00 (2)	33.33 (1)	63.41 (26)	100.00 (1)	0 (0)	44.44 (16)	0 (0)	33.33 (39)	40.33 (121)
No - Homemaker	37.04 (10)	15.71 (11)	50.00 (2)	66.67 (2)	36.59 (15)	0 (0)	0 (0)	52.78 (19)	100.00 (1)	35.04 (41)	33.67 (101)
Total	100.00 (27)	100.00 (70)	100.00 (4)	100.00 (3)	100.00 (41)	100.00 (1)	100.00 (0)	100.00 (36)	100.00 (1)	100.00 (117)	100.00 (300)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.
No information on kind of job anticipated for 18 respondents.

$X^2 = 64.18$ d.f. = 18 $p < .01$
$C = .42$

Table 11-M College Attendance of Male Subpopulation
and
Vocational Aspirations

College Attendance	Don't know	Professional	Managerial	Farmer	Sales Clerical	Skilled Laborer	Unskilled Laborer	Military Services	Military Service	Total
Yes - student in 1965	30.56 (11)*	62.92 (56)	14.29 (3)	22.22 (2)	0 (0)	4.76 (2)	0 (0)	28.57 (2)	16.67 (1)	35.00 (77)
No - Working or in Military Service	69.44 (25)	37.08 (33)	85.71 (18)	77.78 (7)	100.00 (6)	95.24 (40)	100.00 (4)	71.43 (5)	83.33 (5)	65.00 (143)
Total	100.00 (36)	100.00 (89)	100.00 (21)	100.00 (9)	100.00 (6)	100.00 (42)	100.00 (4)	100.00 (7)	100.00 (6)	100.00 (220)**

*Same as Table 1-F
**No information on college attendance for 10 respondents.
No information on kind of job anticipated for 27 respondents.

$X^2 = 58.70$ d.f. = 8 $p < .01$
$C = .46$

Table 12-F College Attendance of Female Subpopulation
and
High School Curriculum

College Attendance	High School Curriculum							
	College Prep.		Commercial		Other		Total	
Yes - student in 1965	55.07	(76)*	.77	(1)	8.00	(4)	25.47	(81)
No - Working or in Military Service	20.29	(28)	57.69	(75)	42.00	(21)	38.99	(124)
No - Homemaker	24.64	(34)	41.54	(54)	50.00	(25)	35.53	(113)
Total	100.00	(138)	100.00	(130)	100.00	(50)	100.00	(318)**

*Same as Table 1-F
**No information on college attendance for 15 respondents.

$X^2 = 117.63$ d.f. = 4 $p < .01$
$C = .52$

Table 12-M College Attendance of Male Subpopulation
and
High School Curriculum

College Attendance	High School Curriculum							
	College Prep.		Commercial		Other		Total	
Yes - student in 1965	55.97	(75)*	0	(0)	6.33	(5)	32.52	(80)
No - Working or in Military Service	44.03	(59)	100.00	(33)	93.67	(74)	67.48	(166)
Total	100.00	(134)	100.00	(33)	100.00	(79)	100.00	(246)**

*Same as Table 1-F
**No information on college attendance for 10 respondents.
No information on high school curriculum for 1 respondent.

$X^2 = 74.18$ d.f. = 2 $p < .01$
$C = .48$

APPENDIX E

Table 1
Correlation Matrix for Total Sample (N = 590)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	College Attendance	*	.54	.49	.45	.44	.39	.35	.35	.17	-.08	.09	.08	.05
(2)	Educational Aspirations		*	.44	.39	.36	.18	.34	.30	.17	-.06	-.10	.03	.07
(3)	High School Curriculum			*	.48	.28	.18	.34	.27	.03	.07	-.03	-.02	.08
(4)	Mental Aptitude				*	.24	.16	.23	.13	.07	.02	.01	.04	.03
(5)	Education of Mother					*	.21	.21	.50	.18	-.09	.11	.11	.10
(6)	Marital Status						*	.27	.20	.09	-.02	.23	.07	.05
(7)	Vocational Aspirations							*	.19	.04	-.02	.24	.12	.01
(8)	Education of Father								*	.18	-.20	.09	.14	.14
(9)	Number of Siblings									*	-.15	.09	.01	.05
(10)	Residential Background										*	.00	.07	-.30
(11)	Sex											*	.11	-.02
(12)	Socioeconomic Status												*	-.06
(13)	Size of High School													*

Table 2
Correlation Matrix for Female Subpopulation (N=333)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	College Attendance	*	.50	.46	.45	.42	.37	.32	.20
(2)	High School Curriculum		*	.28	.19	.40	.48	.27	.21
(3)	Education of Mother			*	.19	.35	.24	.50	.13
(4)	Marital Status				*	.24	.14	.18	.26
(5)	Educational Aspirations					*	.30	.31	.19
(6)	Mental Aptitude						*	.12	.13
(7)	Education of Father							*	.08
(8)	Vocational Aspirations								*

Table 3
Correlation Matrix for Male Subpopulation (N=257)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	College Attendance	*	.71	.55	.52	.50	.40	.36	.33
(2)	Educational Aspirations		*	.53	.63	.49	.41	.29	.17
(3)	Mental Aptitude			*	.40	.48	.22	.14	.21
(4)	Vocational Aspirations				*	.52	.28	.29	.19
(5)	High School Curriculum					*	.28	.28	.21
(6)	Education of Mother						*	.49	.17
(7)	Education of Father							*	.20
(8)	Marital Status								*