A COMPARISON OF STUDENTS ENROLLED IN ACADEMIC AND GENERAL PROGRAMS ON ATTITUDE TOWARD SCHOOL, ATTITUDE TOWARD SELF, PARTICIPATION IN EXTRA-CURRICULAR ACTIVITIES AND RATINGS OF STUDENTS BY TEACHERS

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A COMPARISON OF STUDENTS ENROLLED IN ACADEMIC AND GENERAL PROGRAMS ON ATTITUDE TOWARD SCHOOL, ATTITUDE TOWARD SELF, PARTICIPATION IN EXTRA-CURRICULAR ACTIVITIES AND RATINGS OF STUDENTS BY TEACHERS

A Thesis

Submitted to

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In Partial Fulfillment

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Master of Education

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by

Eric Calvin Coish

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August, 1973

ABSTRACT

A COMPARISON OF STUDENTS ENROLLED IN ACADEMIC AND GENERAL PROGRAMS ON ATTITUDE TOWARD SCHOOL, ATTITUDE TOWARD SELF, PARTICIPATION IN EXTRA-CURRICULAR ACTIVITIES AND RATINGS OF STUDENTS BY TEACHERS

by

Eric Calvin Coish, B. Sc.

Curricular differentiation as practiced in Newfoundland high schools raises certain questions as to the relative adjustment to various aspects of school life of students in the Academic (Matriculation) group as compared with students in the General (Non-Matriculation) group. The two curricular streams were compared with respect to attitude toward school, attitude toward self, participation in extra-curricular activities, and teacher ratings of student social behavior.

A review of related literature showed a scarcity of research concerning streaming, particularly in Newfoundland. The available research produced conflicting results concerning the correlates of streaming, thus further questioning the efficacy and necessity of the tracking procedure.

This post-facto study included Grade 11 students in three Newfoundland rural high schools. Fifty-four students enrolled in the Non-Matriculation program and 125 doing the Matriculation course took part in the study. Data were gathered by means of a semantic differential dealing with attitude toward school and attitude toward self, a questionnaire concerning

student participation in extra-curricular activities, and a rating scale on which teachers evaluated student social activity.

The data obtained were analyzed by a computer program which provided the means, medians, standard deviations and analysis of variance for the Academic group and the General group, males and females, and, in the case of participation in extra-curricular activities, students from the community in which their school was located and students transported into the town. In addition, correlations among different variables for each curricular group, significance of differences between correlations for the two groups, and correlations among three social ratings of students by teachers were calculated.

Analysis of the data revealed that the Academic group received significantly higher mean teacher ratings and took part in significantly more non-sports activities than did the General group. No other significant differences were noted between the two curricular streams. It was also found that, in the total sample and within both curricular groups, females participated in significantly more non-sports activities than did males. When transported students were compared with non-transported students, no significant differences were found between the participation scores of the two groups. In the Academic group, females received significantly higher mean teacher ratings than did male students. A much larger percentage of significant correlations between variables was discovered for the Academic group than for the General group. Over 75% of the correlations between different teacher ratings of student social behavior were statistically significant.

From the findings came conclusions and implications concerning the placement of students in Academic and General classes. It was concluded that the expressed attitudes of students presented no apparent cause for

alarm concerning streaming procedures. However, when student participation in extra-curricular activities as expressed by the student and judged by the teachers was considered, reservations about curricular differentiation were raised.

Recommendations to school personnel included the suggestion of a thorough reassessment of streaming procedures and an enrichment of extra-curricular activities programs in Newfoundland high schools. Possibilities for further study are: investigation of various aspects of student adjustment in Grades 9 to 11; comparative follow-up studies of students in the two curricular groups after graduation from high school; studies of student aspirations as related to the program in which a student is enrolled; and comparative studies of the correlates and effects of streaming as opposed to non-streaming in Newfoundland high schools.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

FACULTY OF EDUCATION

The undersigned certify that they have read, and recommend to the Faculty of Education for acceptance, a thesis entitled "A Comparison of Students Enrolled in Academic and General Programs on Attitude Toward School, Attitude Toward Self, Participation in Extra-Curricular Activities and Ratings of Students by Teachers" submitted by Eric Calvin Coish in partial fulfillment of the requirements for the Degree of Master of Education.

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CHAPTER 1

INTRODUCTION

This chapter will present a discussion of the background of the problem being studied, various aspects of the rationale for the study, research questions and hypotheses, and definitions.

HISTORICAL BACKGROUND OF CURRICULAR DIFFERENTIATION IN NEWFOUNDLAND HIGH SCHOOLS

As early as 1944, the problem of setting up an adequate curricular program in Newfoundland schools was being considered. In that year the Educational Policies Committee of the Canada and Newfoundland Education Association pointed out that:

> Efforts have been made to add other subjects of more general appeal to the program of the academic schools — including art, music, shop work, home economics, and various extra-curricular activities. But owing to administrative difficulties these new offerings have generally been available only in the lower grades of secondary schools, and as a rule only the larger urban schools have facilities to present them adequately.[1]

Similarly, in 1956, Frecker argued for increased diversification of the curriculum in Newfoundland in an attempt to cater to students wanting to attend university as well as to those wishing to go to voca-

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[1] Educational Policies Committee of the Canada and Newfoundland Education Association, Trends in Education, A Survey of Current Educational Developments in the Nine Provinces of Canada and in Newfoundland, 22nd Convention of the Association, 1944 (Toronto: 1944), p. 29.

tional school or entering the work force immediately upon leaving school.[2]

A brief presented to the Royal Commission on Education and Youth in 1965 recommended that:

> Radical changes be introduced in curriculum policies, allowing greater flexibility within individual schools and individual grades so as to permit curriculum enrichment, the satisfaction of special needs and interests, the development of individual programmes of study, subject promotion, and the like.[3]

The draft also proposed that a distinction be made between Matriculation and Non-Matriculation students.

In 1966, the Curriculum Division of the Department of Education announced that high school students could choose to do either the University-Preparatory (Academic) course or the General course.[4]

STATEMENT OF THE PROBLEM

Predictably, the introduction of Academic and General programs in Newfoundland high schools brought certain problems. Whether or not the General-Academic dichotomy adequately prepares students for different careers or, indeed, serves any real purpose, has not been determined. Furthermore, the possible effects of placement in Academic or General courses have not been considered. For example, it is not known if one or both groups of students have difficulty in adjusting to school or in

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[2] G. A. Frecker, Education in the Atlantic Provinces (Toronto: W. J. Gage and Co. Ltd., 1956), p. 92.

[3] Memorial University of Newfoundland, Draft of a Brief to be presented to the Royal Commission on Education and Youth (St. John's: 1965), p. 46.

[4] Newfoundland Department of Education Newsletter, XVIII (September, 1966).

getting involved in various aspects of school social life. Do certain students feel left out of school life? Do students have a healthy attitude toward themselves and toward school? Do teachers give both groups similar or different ratings? While such considerations as these may be crucial to an understanding of student adjustment, locally, no study has been given to them. Students are often placed in a particular course (Academic or General) on practically an indiscriminate basis. Furthermore, how they fare after being placed in a certain course has often been overlooked and left to chance.

The actual efficacy, or even the necessity, of the General-Academic setup has, on occasion, been questioned. Hunter[5] pointed out that, in England, streaming has been attacked bitterly and there is serious doubt as to whether or not it serves any real purpose. He went on to say that:

> It is . . . to be deplored if streaming in the high schools should involve restrictions in choice of courses so as to confine the highest group to subjects leading to matriculation and set down other subjects as appropriate to the less intelligent.[6]

While this rigid differentiation may not have been the original intention of those who set up the dichotomy, streaming in Newfoundland high schools seems to have taken this unfavorable course.[7]

The essential problem is that little is known about the various affective aspects of student development in relation to the General-Academic arrangement. The correlates, if any, of being placed in a particular class

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[5]A. C. Hunter, Brief Submitted to the Royal Commission on Education and Youth (St. John's: 1965), p. 19.

[6]Ibid.

[7]Opinion expressed by Dr. C. K. Brown, Curriculum Director, Newfoundland Department of Education, personal interview, June 6, 1973.

need to be studied.

PURPOSE OF THE STUDY

In view of the preceding discussion and in an attempt to compensate in part for the lack of research on the topic under consideration, particularly in Newfoundland, this study compared Grade 11 students enrolled in Academic and General courses in three Newfoundland rural high schools on the following variables: (1) attitude toward school, (2) attitude toward self, (3) participation in extra-curricular activities, and (4) teacher ratings of social behavior. An attempt was made to determine some of the possible interrelations of placement in Academic or General classes with these four factors, with a view to assessing how well the present school program meets the needs of students with respect to these variables.

SIGNIFICANCE OF THE STUDY

The investigation of the possible influence of the variables considered in this research might well have implications for the placement of students into Academic and General classes. For example, a generally negative attitude on the part of students toward self or school would almost certainly necessitate further investigation before placing a student in a particular group. The discovery of patterns of participation in extra-curricular activities could lead to a better understanding of students and could be helpful in class placement. In the same vein, the investigation of how teachers rate students leads to the inevitable question "Why?" and could lead to a reassessment of placement procedures.

Indeed, the merit of the division of high school classes into Academic and General sections might even be questioned. In any case, the

present manner of setting up Academic and General classes appears to be questionable. As will be illustrated later, there is very little curricular differentiation between Academic and General classes. Furthermore, while students do have some say in placement; essentially, the less intelligent students end up in the General classes and the more intelligent ones get placed in the Academic classes.

The role of the counselor in this becomes apparent when one looks at his possible involvement in helping decide into which classes students should be placed. The case of each student should be considered individually, having due regard for his behavior, attitudes, involvement in school social life, and other relevant factors.

Generally, then, information from this study could be enlightening and helpful in placing students in Academic or General classes, in setting up new programs, or revising, even deleting present ones.

RESEARCH QUESTIONS AND HYPOTHESES

The basic questions being asked by this study are:

1. Are there any significant differences between students enrolled in the Academic program and those enrolled in the General program on any or all of the variables being studied?
2. Are there any particular attitude, participation, or teacher rating patterns characteristic of one or both groups?
3. Does the General-Academic dichotomy meet the needs of students with respect to the variables being considered in this study?

In an effort to answer the above questions, the following hypotheses have been put forward.

Null #1: There is no difference between students enrolled in the

Academic program and those enrolled in the General program on attitude toward school as measured by the attitude-toward-school part of the semantic differential[8] used in this study.

Null #2: There is no difference between students enrolled in the Academic program and those enrolled in the General program on attitude toward self as measured by the attitude-toward-self part of the semantic differential.

Null #3: There is no difference between the two curricular groups in participation in extra-curricular activities as determined by the relevant questionnaire.[9]

Null #4: There is no difference between the social behavior ratings[10] teachers give students enrolled in the Academic program and the ratings teachers give students enrolled in the General program.

DEFINITIONS

Program is herein defined as that course of study set down by the Department of Education as being appropriate for Grade 11 students. The term will be used interchangeably with course and, in a more limited sense, with class.

The Academic or Matriculation program is defined as consisting of the following subjects: English Language, English Literature, Algebra and Geometry, plus three other subjects chosen from the following groups, so that the student does at least one subject from each group: Group A -- Geography, History, Economics, a second language; Group B -- Biology,

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[8] Appendix E. [9] Appendix F. [10] Appendix G.

Chemistry, Physics, Earth Science. Some schools offer a larger selection of subjects.

The General or Non-Matriculation program consists of the following subjects: General English, General Mathematics, plus three subjects selected from the same subject groups and in the same manner as for the Academic program. General English is a combination of English Language and English Literature, and is supposedly not as complex or difficult as the separate subjects of Language and Literature offered in the Matriculation program. Also, General Mathematics is presumably simpler and less involved than the separate Algebra and Geometry of the Academic program. Theoretically, General Mathematics is geared to students going to vocational school or going to work immediately after leaving high school.

A rural high school is defined as a high school located in, or within three miles of, a community having a population of less than 5,000. A rural student is defined as one attending such a school. The population of the student's home town does not enter into the definition.

Attitude toward self is defined as a person's estimation of self-worth as measured by the attitude-toward-self part of the questionnaire used in this study.

Attitude toward school is defined as that variable measured by the attitude-toward-school part of the questionnaire employed in this research.

Teacher rating is defined as the rating teachers gave students on the rating scale used in this study.

Extra-curricular activities are defined as school-sponsored activities, other than regular classroom activities, in which the student had the option to participate.

SCOPE AND LIMITATIONS OF THE STUDY

The study was limited to a cluster sample of all the Grade 11 students and to certain teachers[11] in the three schools included in the study. Thus it was felt that these schools were sufficiently representative to warrant generalization of conclusions to similar schools in other areas of the province of Newfoundland and Labrador.

The study was limited to specific aspects of students' affective development and school involvement, namely: (1) attitude toward school, (2) attitude toward self, (3) participation in extra-curricular activities, and (4) ratings of students by teachers. There are numerous other aspects of student development which could have been considered, but it was felt that a study of these variables was feasible and of adequate significance.

Limitations were placed on the results by the instruments employed in the research. Nevertheless, to the extent that the instruments were similar to those used in other research, the results may be considered comparable to those obtained in other studies.

Another possibly limiting factor was the time during which the research was conducted. This same restriction could have applied at any time. However, it would seem logical that relatively late in the school year, when this research was conducted, student and teacher attitudes would be well entrenched. Also, since almost a whole school year had elapsed up to the time of the data collection, the students should have had the opportunity to participate in a wide variety of extra-curricular activities.

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[11] Three teachers in each school who deemed themselves sufficiently familiar with the students to rate them on social behavior.

SUMMARY

While curricular differentiation was being considered by Newfoundland educators prior to Confederation with Canada, it was not introduced into the province's high schools on a relatively large scale until 1966. While there may be certain favorable aspects to this differentiation, its effectiveness, consequences and correlates seem to be open to question. This study considered some of the possible correlates of streaming to see how the two curricular groups compared on certain attitudes, involvement in school life and ratings by teachers. The results of this study could be useful in class placement of students and in helping assess the present curricular setup.

The last two sections of this initial chapter dealt with relevant definitions and some of the limitations of this study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The present chapter contains a review of reported research and other literature related to various streaming procedures. It is organized under the following topics: (1) Terminology in the Literature, (2) The Status of Research into Streaming, (3) Specific Research, and (4) Summary.

TERMINOLOGY IN THE LITERATURE

There appears to be considerable confusion concerning the many and varied definitions and terms applied to the differentiation of students for instructional purposes. This differentiation has been referred to variously as grouping, streaming, tracking, selection, classification, sectioning, setting and grade placement. Sorensen offered a reasonably operational definition when he said:

> Organizational differentiation of students is defined as the division of a school's student body into subgroups (classes, sections, streams) of a relatively permanent character for instructional purposes.[1]

This study deals with the method of differentiation often employed in Newfoundland high schools and commonly referred to in the literature as streaming or tracking.

Schools may be divided into two types, those utilizing streaming

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[1] Aage B. Sorensen, "Organizational Differentiation of Students and Educational Opportunity," Sociology of Education, XLIII (Fall, 1970), 355.

programs and those not making use of such programs. Yates[2] referred to both types in his report of streaming in British schools. Griffin[3] wrote of comprehensive and grammar schools, with grammar schools offering a more "specialized" education.

The actual bases for the differentiation of curricula are diverse and the terms used to describe the differentiation are often confusing and contradictory. Sorensen[4] made a useful distinction between horizontal and vertical differentiation. Horizontal differentiation assigns students to classes on the basis of curricula; vertical differentiation uses assumed learning capacity as a means of grouping students. It appears that both these types of differentiation are being used almost indistinguishably in Newfoundland high schools. While students are grouped according to curriculum (Academic or General), the basis for grouping is often academic achievement, with the brighter students being placed in the Academic classes and the less bright students being assigned to the General classes.

Hamalainen[5] distinguished between homogeneous and heterogeneous grouping. Homogeneous grouping refers to the grouping of students having certain common characteristics; heterogeneous grouping is the grouping together of students who possess certain different characteristics. On

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[2]Alfred Yates, The Organization of Schooling (London: Routledge and Kegan Paul, 1970).

[3]A. Griffin, "The Effects of Secondary School Organization on the Development of Intelligence, Attainment in English and Attitudes to School," British Journal of Educational Psychology, XXXIX (June, 1969), 191.

[4]Sorensen, op. cit.

[5]Arthur E. Hamalainen, "Method of Grouping Pupils Should Provide Normal Social Situations," The Nation's Schools, XLV (June, 1950), 34-35.

that basis, grouping in Newfoundland high schools could be classed as homogeneous.

The whole matter of definitions becomes even more confusing in the use of such terms as academic and general education in different areas where streaming is practiced. In Newfoundland, students enrolled in the Academic program are supposedly oriented toward entrance to university; students taking the General course are presumably prepared for entrance to a technical or vocational institution.

Alpren[6] used the term general in much the same way that the term academic is used in Newfoundland. Krug[7] used the terms general, liberal, and academic synonomously. He referred to other types of education as vocational or practical education. Schafer[8] made reference to college-prep and non college-prep students. Similarly, students doing the Academic program in Newfoundland are often known as Matriculation students; students enrolled in the General program are referred to as Non-matriculants.

Morgan[9] identified three broad courses Canadian high schools offer today's students -- one program for those needing university preparation or wanting that kind of secondary education; one for non-university prospects ready to make vocational or training choices; and one for those

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[6]Morton Alpren (ed.), The Subject Curriculum: Grades K-12 (Columbus, Ohio: Charles E. Merrill Books, Inc., 1967).

[7]E. A. Krug, Curriculum Planning (New York: Harper and Brothers, 1950).

[8]Walter E. Schafer and Carol Olexa, Tracking and Opportunity (Scranton: Chandler Publishing Company, 1971).

[9]E. H. Morgan, "Secondary Education," Canadian Eduoation Today, ed. Joseph Katz (Toronto: McGraw-Hill Co. Canada Ltd., 1956), pp. 114-125.

students seeking a broad general education without the idea of university or vocational training.

Hansen[10] referred to four tracks commonly found in American high schools: (1) Honors -- for the exceptionally able, (2) Regular College Prep -- for average students planning to go to university, (3) General Track -- for those not planning or not qualified to go to university, and (4) Basic Track -- for the severely academically retarded.

Obviously, then, there is no standard set of terms employed in relation to the tracking process. Various areas where streaming is practiced have developed their own terminology to refer to certain aspects of the procedure.

THE STATUS OF RESEARCH INTO STREAMING

This part of the chapter will illustrate the general lack of research concerning the various aspects of the tracking process.

The Situation Generally

The scarcity of research into streaming, especially with regard to variables other than achievement, has been pointed out by several authors. Chetcuti illustrated this point well in the following statement.

> . . . most of the researches carried out to find the effect of streaming have used attainment as their measuring rod. This has proved inconclusive because the gap between intelligence and attainment can be filled with many variables -- personality factors, social climate, pupils' and teachers' attitudes, teaching methods, etc. -- and many of these have been disre-

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[10] Carl F. Hansen, The Four-Track Curriculum in Today's High Schools (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1964).

garded.[11]

Chetcuti's statement has been supported by other writers. Of the 33 experimental studies reviewed by Ekstrom[12] only one dealt with social and personal adjustment of students. Byers[13] found only eight studies prior to 1960 worthy of review. Miller and Otto[14] concluded that none of the studies concerning streaming have dealt with any outcomes other than academic achievement. In their opinion, research might indicate that the practice of homogeneous grouping is justified by the possible social and psychological advantages. The lack of research into the non-academic aspects of streaming was also noted by Franseth.[15] Similarly, Byers[16] concluded that the social and emotional effects of grouping have not received much consideration. According to Ogletree,[17] most of the research into streaming has been carried out at the junior high level.

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[11]F. Chetcuti, "A Study of the Morale of A Stream and C Stream Pupils in Secondary Schools with Special Reference to Any Differences in the Attitude and Behavior of Their Teachers," Educational Review, XIV (November, 1961), 49.

[12]Ruth B. Ekstrom, "Experimental Studies of Homogeneous Grouping: A Critical Review," School Review (Summer, 1961), 216-226.

[13]Loretta Byers, "Ability Grouping -- Help or Hindrance to Social and Emotional Growth?," School Review, LXIX (Winter, 1961), 449-456.

[14]W. S. Miller and H. J. Otto, "Analysis of Experimental Studies in Homogeneous Grouping," Journal of Educational Research, XXI, 95-102.

[15]Jane Franseth, "Does Grouping Make a Difference in Pupil Learning?," Grouping in the Elementary School, ed. Anne Morgenstern (New York: Pitman Publishing Corp., 1966), p. 20.

[16]Byers, loc. cit.

[17]Earl Ogletree, "Homogeneous Ability Grouping -- British Style," Peabody Journal of Education, XLVII (July, 1969), 20-25.

Research in Newfoundland

There has been little or no research in Newfoundland into the variables considered in this study in relation to the General-Academic classification. The scant local literature concerning the topic consists mainly of opinion and speculation and deals with the development of the streaming trend in this province. This historical aspect was dealt with in the preceding chapter.

The only noticeably strong opinion concerning streaming in Newfoundland high schools was that expressed by Hunter.[18] He appeared to have reservations about the procedure, saying that

> . . . if the division is arbitrary; each group containing its natural proportion of the various types of juvenile capacity, and if the teachers involved are of equal competence, little exception need be taken, but if the grouping is according to supposed ability it falls under grave suspicion.[19]

Clearly, then, there has been little research into the various non-academic factors which might bear some relation to streaming.

SPECIFIC RESEARCH

This section will deal with research which has been carried out in specific topical areas falling within the scope of this study.

Attitude Toward School

Borg reported that "almost no research has been reported that is directly pertinent to pupil attitudes toward school in ability-grouped and

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[18] A. C. Hunter, Brief Submitted to the Royal Commission on Education and Youth (St. John's, 1965).

[19] Ibid., p. 19.

random-grouped classrooms."[20] He conducted a study in Utah, comparing ability-grouped and randomly-grouped students on certain attitudes. He found no significant differences on acceptance of self or concept of self.

In a study of college prep and non-college prep students, Schafer reported that non-college prep students tended to develop negative attitudes and behavior toward school. They saw no point in remaining in school; but "for the college prep student, good grades, staying out of trouble, and accumulating a good record did seem important for the future."[21] Similarly, Chetcuti[22] claimed that streaming has a tendency to lower morale in the duller streams. His study included 509 boys in three secondary British schools, two of which used streaming. It was found that boys in the lower streams rated their stream lower than did boys in the higher streams.

Presenting a different argument after his study of eighth graders in New York, Wilcox reported that

> Ability grouping without curricular differentiation has a significant and positive effect upon the attitudes of low normal and low ability pupils toward self, school, and peers and a significantly negative effect on pupils from upper socio-economic level homes.[23]

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[20] Walter R. Borg, Ability Grouping in the Public Schools (Madison, Wisconsin: Dembar Educational Research Services, Inc., 1966), p. 43.

[21] Walter E. Schafer and Carol Olexa, Tracking and Opportunity (Scranton: Chandler Publishing Company, 1971), p. 64.

[22] Chetcuti, op. cit., p. 51.

[23] J. Wilcox, "A Search for the Multiple Effects of Grouping Junior High School Pupils," Peabody Journal of Education, XLI (January, 1964), 225.

Yates[24] presented a similar finding upon reviewing studies of streaming at different grade levels in Britain and the United States. He discovered that, generally, average and below average ability students in schools not employing streaming had more favorable attitudes to school work and better relations with teachers than did similar students in schools which used streaming.

Thus, it seems that the evidence concerning the advantages and disadvantages of streaming as it might relate to attitude toward school is conflicting. Different authors argue for its effectiveness or ineffectiveness for different groups of students. Much of the available evidence seems to be against streaming, especially for the lower groups.

Attitude Toward Self

This attitude has been known by various other names such as self-esteem and self-concept. Rosenberg defined high self-esteem as

> the feeling that one is good enough. The individual simply feels that he is a person of worth; he respects himself for what he is, but he does not stand in awe of himself nor does he expect others to stand in awe of him.[25]

Frazier[26] felt that research into the self-concept is an important aspect of educational research. This importance was underscored by Combs, who expressed the opinion that a person's view of himself has implications

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[24]Alfred Yates, The Organization of Schooling (London: Routledge and Kegan Paul, 1970).

[25]Morris Rosenberg, Society and the Adolescent Self-Image (Princeton, New Jersey: Princeton University Press, 1965), p. 31.

[26]Alexander Frazier, "Curriculum Research -- New Horizons in Field Research," Educational Leadership, XV, No. 1 (October, 1957), 39.

for many aspects of his behavior. The self-concept, he thought, is a primary factor in determining an individual's adjustment.[27]

The idea that a person's self-concept is positively related to the image he perceives significant others, including teachers, hold of him, was expressed by Brookover.[28] In a similar vein, Evans,[29] in reporting Brownfain's study of the self-concept, noted that, among men students, stable self-concept is related to such factors as popularity, fewer inferiority feelings -- generally better adjustment.

Schafer and Olexa suggested that the negative educational outcomes they found among non-college prep students could be due in part to the stigmatizing effect of being placed in the non-prep track. This placement, they felt, erodes both self-esteem and dedication to the goal of school performance. Furthermore, the individual may internalize and rebel against the labels imposed on him, with this resentment often generalizing to the whole system.[30] Yates supported the above view. He felt that "those assigned to the lower streams develop a sense of inferiority which reduces their motivation and hinders their progress."[31]

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[27]Arthur W. Combs, "New Horizons in Field Research: The Self Concept," Educational Leadership, XV, No. 5 (February, 1958), 315.

[28]W. B. Brookover et al., Self-Concept of Ability and School Achievement (Michigan State University, East Lansing: Educational Publication Services, 1962), p. 74.

[29]K. M. Evans, Attitudes and Interests in Education (London: Routledge and Kegan Paul, 1965), p. 74.

[30]Schafer and Olexa, op. cit., p. 61.

[31]Yates, op. cit., p. 82.

Findley[32] reviewed the most prominent studies of ability grouping of different kinds and concluded that it reinforces favorable self-concepts of those children in high achievement groups as well as unfavorable self-concepts of those in low achievement groups. Maxine Mann came to virtually the same conclusion. She said that "ability grouping is cruel to all but the top students."[33] This idea that grouping is detrimental to students in the lower streams, giving them a sense of failure, was also expressed by Ogletree.[34]

Dyson, arguing differently from the above authors, concluded from a study of seventh grade pupils that "ability grouping alone does not appear to have a significant effect on either reports of acceptance of self or academic self-concept."[35] A somewhat similar conclusion was arrived at by Borg and Pepich. In a controlled study of slow-learning (I.Q. 70-90) 10th graders at a Salt Lake City high school, they reported that there were no significant differences between the groups in either self-concept or attitudes.[36]

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[32]W. G. Findley and M. M. Bryan, Ability Grouping, 1970: Status, Impact and Alternatives (Athens, Georgia: Center for Educational Improvement, 1971), p. 3.

[33]Loretta Byers, "Ability Grouping -- Help or Hindrance to Social and Emotional Growth?," School Review, LXIX (Winter, 1961), 449-456.

[34]Earl Ogletree, "Homogeneous Ability Grouping -- British Style," Peabody Journal of Education, XLVII (July, 1969), 23.

[35]Ernest Dyson, "A Study of the Relationships Between Acceptance of Self, Academic Self-Concept, and Two Types of Grouping Procedures Used With Seventh Grade Pupils," Dissertation Abstracts, XXVI (September, 1965), 1476.

[36]Findley and Bryan, op. cit., p. 34.

It is evident, then, that there is a scarcity of research concerning the self-concept and its possible relationship to various methods of grouping students. The need for studies of this type has been stressed by a number of authors.

The studies which have been conducted in the area of the self-concept have certainly not produced unequivocal, unanimous results. Nevertheless, generally the argument appears to be that streaming may be beneficial to students in the top streams but detrimental or of no use to those in the lower streams. In Newfoundland, students enrolled in the Academic course constitute the top stream; those doing the General program make up the lower stream.

Participation in Extra-Curricular Activities

The limited reported research on this topic contains a number of conflicting views as to whether or not participation in extra-curricular activities is related to academic streaming.

Ferri found that, in British schools, students in streamed classes were not as active in these events as were students in non-streamed classes. The greatest differences were found among average and below average ability children from lower social class homes.[37]

Concerning differences among various streams, Monks[38] reported that high ability students in British secondary schools tended to participate most in extra-curricular activities and the degree of participation

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[37]Elsa Ferri, Streaming: Two Years Later (Slough: National Foundation for Educational Research in England and Wales, 1971), p. 42.

[38]T. G. Monks, Comprehensive Education in Action (Slough: National Foundation for Educational Research in England and Wales, 1970), p. 148.

decreased as the student's ability decreased. Somewhat similar findings were reported by Schafer and Olexa. In their study of two midwestern American schools, they found that 44% of the college prep students, compared with only 11% of the non-college prep students, participated in three or more extra-curricular activities. The two researchers summed up their findings and speculations in the following statement.

> Several writers have observed that within the school, non-college prep students are more likely to be outside the mainstream of student life, partly because they feel marginal and put down and partly because by this time they have developed friendships with others who feel equally marginal and whose social life and interests revolve about other places and activities.[39]

In contrast to the differences reported by the above authors, Matteson concluded from a study of 300 entering college freshmen at Michigan State University that "strong recreational interests do not appear to characterize any of the curricular groups."[40]

Snyder conducted a longitudinal study of student values and social participation among students in the midwestern United States. Not surprisingly, he reported that students who were oriented toward athletics and activities were more likely to take an active part in various school organizations and activities, including athletics.[41]

Having reviewed many of the prominent studies concerning social

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[39] Walter E. Schafer and Carol Olexa, Tracking and Opportunity (Scranton: Chandler Publishing Company, 1971), p. 42.

[40] R. W. Matteson, "Educational Experiences, Academic Interests, and Curriculum Choices," Personnel and Guidance Journal, XXXIX (May, 1961), 720.

[41] E. E. Snyder, "A Longitudinal Analysis of the Relationship Between High School Student Values, Social Participation, and Educational-Occupational Achievement," Sociology of Education, XLII (Summer, 1969), 265.

participation of students, Schafer and Olexa concluded that students who participate in extra-curricular activities are more likely to aspire to college because of influence from various sources.[42] In view of this, then, it was to be expected that a large percentage of the students who participated in a fair number of activities were enrolled in the Academic program in the three schools included in this study.

It can thus be seen that the limited research which has been conducted into student participation in extra-curricular activities has not resulted in a consensus concerning the patterns of this participation. Some authors contend that this participation is characteristic of certain student groups; others contend this is not the case.

Ratings of Students by Teachers

There appears to be general agreement among various researchers that teachers rate individual students differently. It is almost universally felt that teachers have more favorable attitudes toward "bright" students than toward "dull" students. Chetcuti offered support for this idea. In his study of secondary schools in Britain, he discovered that teachers showed more favorable attitudes towards boys in higher streams than towards those in lower streams. He added that students easily perceived the different attitudes teachers held towards them. These teacher opinions and feelings affected the morale of the students, with the "duller" students having the lower morale.[43]

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[42] Schafer and Olexa, op. cit., p. 43.

[43] F. Chetcuti, "A Study of the Morale of A Stream and C Stream Pupils in Secondary Schools with Special Reference to Any Differences in the Attitude and Behavior of Their Teachers," Educational Review, XIV (November, 1961), 51.

Related to these ideas brought out in Chetcuti's study was Brookover's contention that the self-concept is related to the image the student feels others hold of him.[44] This idea is similar to the original self-fulfilling prophecy hypothesis of Rosenthal and Jacobson.[45] That students tend to live up to teacher expectancies was also endorsed by Schafer and Olexa who summed up the matter in the following statement.

> It is likely that non-college prep students were low in motivation, commitment to school, grades, involvement, conformity and attendance, partly because teachers, counselors, and others expected them to be that way. In short, these students were probably ensnared in a negative self-fulfilling prophecy.[46]

Schrank was of the opinion that the teacher is the main figure in the stigmatizing and labeling effect of streaming.[47]

To sum up, then, there appears to be fairly uniform support among various researchers for the suggestion that teacher ratings of students differ with the supposed ability of the student. These ratings are reflected in the expressed self-concepts of the students and there is a tendency for students to live up (or down) to the expectancies of teachers.

General Correlates of Various Grouping Procedures

Several writers have reported comparative studies of streaming

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[44] W. B. Brookover et al., Self-Concept of Ability and School Achievement (Michigan State University, East Lansing: Educational Publication Services, 1962), p. 74.

[45] R. Rosenthal and L. Jacobson, Pygmalion in the Classroom (New York: Holt, Rinehart and Winston, Inc., 1968).

[46] Schafer and Olexa, op. cit., p. 54.

[47] W. R. Schrank, "A Further Study of the Labeling Effect of Ability Grouping," Journal of Educational Research, LXIII (April, 1970), 358-360.

versus non-streaming. While this study did not deal with the non-streaming situation, it is felt that research of streaming as opposed to non-streaming can help establish a basis for research into some correlates of streaming.

In a 1967 study of ninth and eleventh grade students in California, Olivarri used the Concept of Self-as-a-Learner Scale to discover how students felt after two years of homogeneous or heterogeneous grouping. He found generally better feelings of self-worth among lower ability groups in the homogeneous situation, while the higher ability students only slightly favored this setting.[48]

Griffin, in a study of British schools, found that children in schools without streaming programs had more positive attitudes toward school than did children in schools which used streaming programs.[49]

Schafer and Olexa, while qualifying their argument, gave streaming a low evaluation in the following statement.

> The evidence points to the conclusion that the track system is an effective organizational instrument for educational selection (that is, screening out), but an ineffective educational instrument, at least for students assigned to non college-preparatory tracks.[50]

They went on to suggest that the track system serves to reduce equality of educational opportunity and inhibits talent and motivation for learning.

Findley and Bryan reported that the effect of grouping is to lump low achievers from various backgrounds together, thus depriving them of the stimulation of meeting children from higher socio-economic backgrounds.

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[48] Findley and Bryan, op. cit., p. 35.

[49] Griffin, loc. cit.

[50] Schafer and Olexa, op. cit., p. xi.

These two authors noted Clark's suggestion that children thus segregated lose their individuality and are seen in terms of group characteristics rather than as unique individuals.[51]

Hansen argued in favor of heterogeneous grouping (i.e., non-streaming). He felt that otherwise the child's learning and social experiences are greatly restricted.[52] Similarly, Hamalainen[53] suggested that placing children of varying abilities in the same class is highly favored by today's educationalists. He felt that this procedure offers a more normal social situation for elementary school children. The idea of heterogeneous grouping was also strongly supported by Eash. He said there is fairly conclusive evidence that grouping does influence certain affective aspects of child development and suggested that children need to have the chance to work with a wide variety of people.[54] Yates also concluded that, if non-academic factors are considered, non-streaming is preferable to streaming, largely because of the detrimental effects streaming appears to have on the affective development of children.[55]

Being more cautious and less definite than the above authors, Franseth expressed the view that ability grouping may produce undesirable

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[51]Findley and Bryan, op. cit., p. 3.

[52]Hansen, op. cit., p. 27.

[53]Hamalainen, op. cit., p. 34.

[54]Maurice J. Eash, "Grouping: What Have We Learned?," Educational Leadership, XVIII (April, 1961), 429-434.

[55]Yates, op. cit., p. 84.

learning effects.[56] Even more neutral was Dr~~a~~ws' conclusion that "homogeneous classes appeared to have little advantage over heterogeneous classes for the average student as judged by teacher, peer, and self-ratings."[57]

Miller and Otto, considering the arguments both for and against different forms of ability grouping, concluded that the evidence concerning the matter is contradictory. They suggested that ability grouping is not effective unless accompanied by proper modifications in instructional techniques.[58]

As the literature indicates, the results and conclusions of studies into streaming have often been contradictory. But, on the whole, there appears to be considerable support for non-streaming, since the evidence seems to indicate that streaming is generally not beneficial in relation to the child's overall development. Streaming may be an efficient bureaucratic procedure, but that appears to be the extent of its effectiveness.

SUMMARY

This chapter has dealt with reported research and other literature concerning various types of grouping and some of the factors which might be related to this procedure. Included are an attempted clarification of some of the confusing terms often used in relation to streaming, a general

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[56] Franseth, loc. cit.

[57] M. L. Goldberg, A. H. Passow, and Joseph Justman, The Effects of Ability Grouping (New York: Teacher's College Press, 1966), p. 16.

[58] Miller and Otto, op. cit., p. 100.

overview of research both in and outside the province of Newfoundland, and reports of specific researches concerning attitude toward school, attitude toward self, participation in extra-curricular activities, ratings teachers give students, and some of the general correlates of streaming.

While the controversy surrounding streaming has by no means been settled, a substantial number of researchers and writers seem to have serious reservations about the procedure, essentially because they feel it can have harmful effects on the affective development of students.

CHAPTER 3

METHODOLOGY

This chapter presents an elaboration of the design of this study and the procedures employed in conducting the research. The chapter is divided into the following main subheadings: (1) General Design of the Study, (2) The Sample, (3) Selected Variables and Instruments, (4) Data Collection, (5) Statistical Procedures, and (6) Summary

GENERAL DESIGN OF THE STUDY

This study was a comparative analysis of Grade 11 students enrolled in the Academic or General program in three rural Newfoundland high schools. The variables studied were: (1) attitude toward school, (2) attitude toward self, (3) participation in extra-curricular activities, and (4) ratings of students by teachers. It was felt that a study of these four factors offers a meaningful and significant way of comparing the two different curricular streams.

The design was essentially a post-facto one, considering some of the possible correlates of student inclusion in the method of streaming peculiar to Newfoundland.

There was no essential difference in the method of data collection from the two groups. The 54 students on the General program and 125 on the Academic program who participated in this study completed the two-part semantic differential and the participation in extra-curricular activities

questionnaire and were rated, in most cases, by three different teachers.

Other aspects of the design of the study are delineated in the subsequent sections of this chapter.

THE SAMPLE

A discussion of the method of sample selection and a detailed description of the sample are given under the above heading.

Selection of the Sample

The method of sample selection employed in this research is a variation of simple random sampling.[1] The sample consisted of all the Grade 11 students present in three schools, rather than individual students from a large number of schools. Butcher referred to this type of sample selection as cluster sampling and stated that

> . . . although this (cluster sampling) has disadvantages compared with a simple random sample, it preserves the random principle on which statistical inference depends, and at the same time allows a design that is within the powers of the individual research worker.[2]

As will be evident in the descriptions presented later, the communities in which the three schools are located are different in essential ways and represent three common types of communities found in Newfoundland. Furthermore, the sample included the two types of Newfoundland high schools -- Central and Regional. In the light of the above considerations, it was felt that the schools included in this study may be considered somewhat

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[1] H. J. Butcher, Sampling in Educational Research (Manchester: Manchester University Press, 1965), p. 13.

[2] Ibid.

comparable to other similar schools in this province.

Description of the Sample

For reference purposes and to ensure the anonymity of the respondents who participated in this research, the three schools will be designated as School A, School B, and School C. Following are specific descriptions of these schools and the communities in which they are situated.

School A. This regional high school is located near and serves four small fishing communities which have a total population of about 4,000. The school, with a teaching staff of 10, accommodates approximately 200 students in Grades 9 to 11. Of the 50 Grade 11 students registered at the school, 44 were present at the time of the data collection. The most common extra-curricular activities in the school included: Sports,[3] Student Council, Red Cross, Yearbook, Graduation Committee, Glee Club, and Chess Club.

School B. School B, a central high school with a student population of about 450, is situated in a commercial center with a population of around 4,000. A staff of 25 teachers instructs Grades 7 to 11. The three Grade 11 classes in the school contain a total of about 100 students. Of these, 86 took part in the study. The extra-curricular activities offered to the students in this school included Sports,[4] Student Council, Yearbook, Drama Club, Photo Club, French Club, Camera Club, and Graduation Committee.

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[3]The sports available in School A were: ice hockey, floor hockey, table tennis, baseball, soccer, basketball, volleyball, badminton, softball, shuffleboard and dances.

[4]Students in School B could choose from the following: hockey, table tennis, basketball, volleyball, badminton, softball, dances, cross-country, and wrestling.

School C. A mining and logging community of about 3,000 people is the site of School C. This central high school has a total enrollment of 425 students in Grades 7 to 11, and a teaching staff of 18. The two Grade 11 classes contain a total of about 60 students. At the time of the data collection, 49 Grade 11 students were present in the school. Students could choose to participate in any of the following extra-curricular activities: Sports,[5] Student Council, Yearbook, Science Fair, Graduation Committee, plus other less common activities.

The following table gives a breakdown of the sample by school, course, and sex.

TABLE I

BREAKDOWN OF THE SAMPLE BY SCHOOL, COURSE AND SEX

School	Academic		General		Totals
	Male	Female	Male	Female	
A	16	16	5	7	44
B	34	35	11	6	86
C	16	8	13	12	49
Totals	66	59	29	25	179

SELECTED VARIABLES AND INSTRUMENTS

Data concerning the variables being considered in this research were collected by means of a three-part questionnaire[6] completed by all Grade 11

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[5] School C offered floor hockey, table tennis, soccer, basketball, volleyball, badminton, dances, and curling.

[6] Appendixes E and F.

students present in the three schools at the time of the data collection, and a ten-point rating scale[7] on which teachers evaluated the students. The instruments were adapted from those used by Hiscock.[8] A more specific description of the instrumentation follows.

The Semantic Differential

To measure attitude toward school and attitude toward self of the students in this study, a two-part semantic differential[9] was used. The design of this instrument, its reliability and validity, and its use in this research will now be discussed.

Structure and purpose of the semantic differential. The semantic differential, originally designed by Osgood, has been employed by a number of researchers.

Essentially, the instrument consists of a list of bipolar adjectives between which the subject indicates the direction and degree of his association with these adjectives, usually on a seven-step scale. The semantic differential in this study contained a five-step scale. There are no standard concepts or scales; these depend on the nature of the research.

The instrument has been used to measure various concepts, including

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[7]Appendix G.

[8]R. N. Hiscock, "Personal-Social Adjustment and Social Participation of Transported and Non-Transported Students" (unpublished M.Ed. thesis, Memorial University of Newfoundland, 1972).

[9]Appendix E.

attitudes.[10] Kitchen stated that, "the 'semantic differential' is considered an objective and valid means of studying the value systems and attitudes of young people."[11] In the same vein, Warr and Knapper, in their comprehensive review of the semantic differential, assessed it as ". . . a very satisfactory measure which can fruitfully be used to measure a wide variety of aspects of person perception."[12] Thus, it appears that this instrument is appropriate for the assessment of the attitudes considered in this study.

Reliability. The reliability of the semantic differential has been investigated by a number of authors. Using the differential to measure attitude, Tannenbaum calculated a mean test-retest reliability of .91.[13] Jenkins, Russell and Suci reported a correlation of 0.97 between mean responses on 20 scales.[14] Investigation by Di Vesta and Dick revealed a test-retest correlation of 0.86 upon immediate retest and 0.77 after four weeks.[15]

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[10]See, for example, G. T. Evans, "Use of the Semantic Differential Technique to Study Attitudes During Classroom Lessons," Interchange, 1, 4 (1970), 96-100; and T. R. Husek and M. C. Wittrock, "The Dimensions of Attitudes Toward Teachers as Measured by the Semantic Differential," Journ. of Educ. Psych., LIII, 5 (1962), 209-213.

[11]Ronald D. Kitchen, "The Semantic Differential and Value Judgments of Student Teachers," Educ. Res., XII (February, 1970), 150-153.

[12]Peter B. Warr and C. Knapper, The Perception of People and Events (London: John Wiley and Sons, 1968).

[13]Charles E. Osgood, George J. Suci and Percey H. Tannenbaum, The Measurement of Meaning (Chicago: University of Illinois Press, 1967), p. 192.

[14]Warr and Knapper, op. cit., p. 75.

[15]Ibid.

Osgood, Suci and Tannenbaum reported a correlation coefficient of 0.85 when 100 students rated 20 concepts which appeared twice on a semantic differential.[16] Even higher values were found by Cassel. He asked 237 subjects to rate three concepts and reported correlation coefficients ranging from 0.92 to 0.96.[17]

As the above studies indicate, the semantic differential has been found to have adequate reliability.

Validity. As Warr and Knapper pointed out, the validity of the semantic differential is more difficult to establish than is its reliability.[18] They, like Osgood,[19] felt that the instrument has reasonable face validity.

Upon comparison with the Thurstone scales, validity coefficients of 0.90 or better were calculated.[20] Similarly, when the semantic differential was compared with the Guttman scale, the conclusion was that the two instruments measured essentially the same thing.[21]

Hiscock reported a practice run of the semantic differential with Grade seven students and found that they had no difficulty in understanding the procedure or meanings of the adjectives.[22] The students in this

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[16] Osgood, Suci and Tannenbaum, op. cit., p. 127.

[17] Russel N. Cassel, "Development of a Semantic Differential to Assess the Attitude of Secondary School and College Students," Journ. of Exper. Educ., XXXIX (Winter, 1970), 10-14.

[18] Warr and Knapper, op. cit., p. 89.

[19] Osgood, Suci and Tannenbaum, op. cit., p. 141.

[20] Ibid., p. 193.

[21] Ibid.

[22] Hiscock, op. cit., p. 63.

present study were given specific and detailed instructions[23] prior to filling out the instrument. In addition, the researcher supplied other information requested by the students.

Attitude toward school. Information concerning how the students felt about school was provided by this part of the semantic differential. By marking choices at various points between the twelve pairs of adjectives, students indicated how they would describe their school. The responses were given values ranging from one to five, one being at the negative end of the response continuum and five at the positive end. The minimum score a student could receive on this part of the semantic differential was 12; the maximum was 60.

Attitude toward self. The second part of the semantic differential included 13 adjectival pairs which might commonly be used to describe how a person feels about himself. In a manner similar to that for the attitude-toward-school scale, students could indicate how they felt about themselves. Scoring was done in the same way as for the attitude-toward-school part of the instrument, with the lowest possible score being 13 and the highest possible score 65.

The Participation in Extra-Curricular Activities Questionnaire

The degree and patterns of student participation in extra-curricular activities were assessed by means of a questionnaire[24] covering some of the most common activities such as Student Council, Yearbook, and Sports. In

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[23] Appendix D.

[24] Appendix F.

addition, provision was made for the students to include activities not named specifically in the questionnaire.

The Rating Scale

Rating scales have been used extensively in educational research. Stewart and Malpass used a rating scale on which students rated instructors.[25] Lorber had teachers rate students on certain behaviors and characteristics.[26]

Reliability and validity. A number of researchers have studied the reliability and validity of rating scales.

Marsh and Perrin correlated ratings with more objective criteria and concluded that ". . . ratings of some human traits and performances thus have a satisfactory degree of validity."[27] Guilford,[28] in discussing rating scales, reported Symonds' conclusion that under ordinary conditions ratings give results as reliable as those offered by the ranking procedure. Other authors, such as Stouffer; and Barron, Hirsch and Glucksman[29] have

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[25]Clifford T. Stewart and Leslie F. Malpass, "Estimates of Achievement and Ratings of Instructors," Journ. of Educ. Res., LIX (April, 1966), 347-350.

[26]Neil M. Lorber, "Inadequate Social Acceptance and Disruptive Classroom Behavior," Journ. of Educ. Res., LIX (April, 1966), 360-361.

[27]J. P. Guilford, Psychometric Methods (New York: McGraw-Hill Book Co., 1954), p. 297.

[28]Ibid., p. 297.

[29]Samuel A. Stouffer et al., Measurement and Prediction, Vol. IV (New York: John Wiley and Sons, Inc., 1950); Bruce A. Barron, Jules Hirsch and Myron Glucksman, "The Construction and Calibration of Behavioral Rating Scales," Behav. Sci., XV (1970), 220-226.

reported that rating scales possess reasonable reliability and validity.

Bitter offered a word of caution concerning rating scales. He noted Kerlinger's warning that, often, rating scales based on observation run into difficulty because of the fallibility of the observer.[30] After considering some of the shortcomings of the scales, Bitter recommended that, ". . . more than one rater participate when rating scales are used as an aid in decision-making, and that ratings be interpreted with caution."[31]

Generally, then, if certain precautions are taken, rating scales can serve as satisfactory instruments for determining how people view other individuals.

The rating scale in this study. The scale employed in this research consists of a list of 10 items arranged on a five-point frequency continuum.[32] The highest possible frequency allowed for in the rating scale was given a score of five, with scores decreasing to a minimum of one as the frequency of the specified behavior decreased. Thus, the lowest total rating score a teacher could give any student was 10; the maximum was 50.

In view of some of the limitations of rating scales and considering Bitter's recommendation that the services of more than one rater be used,[33] it was decided that each student in this study would be rated by three different teachers. This was done in most cases; a limited number of students were rated by two teachers. In all instances, more than one teacher rated the subjects. Thus, the application of the rating scale in

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[30] James A. Bitter, "Bias Effect on Validity and Reliability of a Rating Scale," Measurement and Evaluation in Guidance, III (Summer, 1970), 70.

[31] Ibid., p. 74. [32] Appendix G. [33] Bitter, loc. cit.

this study should help increase the possibility that the results have reasonable validity.

DATA COLLECTION

This part of the chapter describes the specific procedures involved in collecting data for this research.

Preliminary Arrangements

The first step in arranging the data collection involved writing a preliminary letter[34] to the District Superintendents and Principals responsible for administering the three schools in this study. Permission to conduct research was obtained from all officials contacted.

The initial letter was followed up by other correspondence. A letter confirming the specific time during which the data would be collected was sent to all school principals involved.[35] In addition, each Grade 11 teacher in the three schools received a form letter,[36] explaining the basic idea of the study and requesting the teacher's co-operation in collecting the data.

Upon arriving at each school, the researcher talked with the principal and teachers, gathering specific information on such matters as the extra-curricular program in the school. The teachers involved were given a set of instructions[37] dealing with the instrument to be completed by the students, as well as rating forms on which to evaluate the students. A more specific description of the administration of these instruments

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[34] Appendix A.

[35] Appendix B.

[36] Appendix C.

[37] Appendix D.

follows.

Administration of the Student Questionnaire

As stated previously, in each school the help of teachers was enlisted in administering the student questionnaires according to the standard set of instructions. In addition, the author visited each classroom where questionnaires were being completed, offering necessary explanation and answering questions posed by students. After completion, the questionnaires were collected and scored by hand.

Completion of the Rating Scale

At the time when most of the data were collected, in each school, one teacher from each Grade 11 class was given rating forms to fill out concerning the students. The teachers were allowed adequate time to complete the ratings. About two weeks later, two other teachers of each class rated the same students. The teacher rating forms were scored manually.

STATISTICAL PROCEDURES

After the student questionnaires and teacher rating forms had been scored, the data were transferred to computer coding sheets and subjected to a computer program for statistical analysis. A discussion of the various statistical procedures applied to the data is presented in this section of the chapter.

Descriptive Statistics

For both groups (Academic and General), the means, medians and standard deviations were calculated for the data obtained from the semantic

differential, the participation in extra-curricular activities questionnaire,[38] and the student rating scale. Also, for the total sample and within the course divisions, comparisons were made between males and females. In the case of student participation in activities, a comparison was also made between students from the town in which the school was located and those residing outside the town. This was done to see if any differences might be attributed, even in part, to whether the student lived in the particular community and thus probably had a good chance to participate in activities or was transported from another community, in which case he might not have had the same opportunities to participate in activities.

Frequency polygons were constructed depicting the distributions of the data obtained from the different parts of the research instrument.

Sampling Statistics

According to Ferguson, "statistical procedures used in the drawing of inferences about the properties of populations from sample data are frequently referred to as sampling statistics."[39] This part of Chapter 3 deals with sampling or inferential statistics provided by the computer program.

Significant differences. To test the significance of any differences between students doing the Academic program and those doing the

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[38]Participation in extra-curricular activities was further divided into participation in sports and non-sports activities.

[39]George A. Ferguson, Statistical Analysis in Psychology and Education, 3rd ed. (New York: McGraw-Hill Book Co., 1971), p. 10.

General program, F-ratio statistics were calculated for each of the variables studied. Analysis of variance figures were also obtained for males versus females, and, in the case of student participation, whether the student lived in, or was transported to the town in which the school was located was examined for significance. The differences between correlations were also examined to determine their significance.

Correlations. The mean attitude toward school, attitude toward self, participation in extra-curricular activities, and student rating scores were correlated with each other using the Pearson Product Moment formula. The correlations were calculated for the students on the Academic program and those on the General program.

Correlations were also calculated among the three (in a few cases, between two) different ratings of each student with a view to examining the consistency with which teachers rated students.

SUMMARY

The discussion in this chapter has concerned various aspects of the research design and procedures employed in this research.

This comparative study of students enrolled in the Academic and General programs in three Newfoundland rural high schools examined the attitudes toward school and self, participation in extra-curricular activities, and the ratings of students by their teachers.

The instruments used were a two-part semantic differential, a questionnaire and a rating scale. The data were collected through field research conducted by the author, utilizing the assistance of school personnel.

CHAPTER 4

ANALYSIS OF THE DATA

The computer program yielded descriptive and inferential statistics from the data collected in this study. An introduction to these statistics was presented in the preceding chapter. The data and statistical analyses are more specifically described in the present chapter, organized under the following subheadings: (1) Overall Descriptive Statistics, (2) Results from Specific Parts of the Research Instrument, (3) Relationships Among Variables, and (4) Summary.

OVERALL DESCRIPTIVE STATISTICS

In order to present a general overview of the results of the study, this section of the present chapter gives some basic statistics according to the course of study (Academic or General) and sex of the respondents. The three participation scores were also analyzed according to the transportation status (transported or non-transported) of the students. The means, standard deviations, and analysis of variance scores are presented for each group. No comprehensive discussion of the results will be undertaken in this section of the present chapter. Detailed discussion will be included later in relation to specific variables.

The overall results are presented in a series of tables in this division of the chapter. For convenience and necessary brevity, certain variables are represented in the tables by abbreviations. The following key is included in order to explain these shortened representations.

ATS = Attitude Toward School

ATY = Attitude Toward Self

NSP = Non-Sports Activities and Organizations

SPR = Sports and Related Activities

TPS = Total Participation Score (NSP + SPR)

MTR = Mean Teacher Rating of Student Social Activity

The Academic Group Compared with the General Group

Table II shows the means, standard deviations, and analysis of variance scores for both the Academic and General groups. It can be seen that there were statistically significant[1] differences between the two curricular groups on two variables. The mean number of non-sports activities in which the Academic group participated was significantly higher than the number for the General group. Also, students on the Academic program received significantly higher mean teacher ratings than did students doing the General program. No other significant differences were noted between the mean scores of the two groups.

Males of the Academic group and males of the General group. Further analysis of the results is presented in Table III, which compares males on the Academic program with those on the General program. Males enrolled in the Academic course took part in significantly more non-sports activities and received significantly higher mean teacher ratings than did their counterparts from the General group. In the case of the other variables, the differences were not significant.

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[1] $p < .05$. This figure is the probability level used throughout the study to determine statistically significant findings.

TABLE II

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES FOR THE ACADEMIC AND GENERAL GROUPS

Variable	Academic		General		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	44.544	6.374	43.185	9.521	1.2556
ATY	50.808	6.388	50.981	6.891	0.0321
NSP	1.568	1.775	0.907	1.444	5.8115*
SPR	3.352	3.710	2.815	2.511	0.9439
TPS	4.920	4.700	3.722	2.851	3.0276
MTR	38.497	4.881	31.719	6.026	62.8540*

*This notation is used in tables throughout the text to indicate findings significant at the .05 level.

TABLE III

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES OF MALES OF THE ACADEMIC GROUP AND MALES OF THE GENERAL GROUP

Variable	Academic		General		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	44.636	5.859	42.448	10.858	1.6129
ATY	51.788	6.176	51.241	7.731	.1369
NSP	1.136	1.346	0.517	0.871	5.1529*
SPR	3.667	3.852	3.655	2.703	.0001
TPS	4.803	4.763	4.172	2.892	.2793
MTR	37.662	5.083	31.195	6.063	28.9444*

Females of the Academic group and females of the General group. Table IV offers a comparison of the mean scores of females on the two curricular programs. While females doing the Academic course took part in considerably more extra-curricular activities than did females on the General program, the differences were not significant. But, it can be seen that teachers gave significantly higher ratings to females of the Academic group.

TABLE IV

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES OF FEMALES OF THE ACADEMIC GROUP AND FEMALES OF THE GENERAL GROUP

Variable	Academic		General		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	44.441	6.954	44.040	7.824	.0529
ATY	49.712	6.494	50.680	5.914	.4296
NSP	2.051	2.063	1.360	1.823	2.1025
SPR	3.000	3.543	1.840	1.886	2.3716
TPS	5.051	4.666	3.200	2.769	2.5722
MTR	39.432	4.506	32.327	6.048	35.4025*

Males Compared with Females

A more detailed examination of the results was obtained by dividing the total sample into male and female groups. Tables V, VI and VII give this breakdown.

Males and females of the total sample. A comparison of males and females in the whole sample is provided in Table V. The figures indicate that the females participated in significantly more non-sports activities,

while the males took part in a significantly larger number of sports and related activities.

TABLE V

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES FOR MALES AND FEMALES IN THE TOTAL SAMPLE

Variable	Males		Females		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	43.968	7.738	44.321	7.178	0.1027
ATY	51.621	6.651	50.000	6.307	2.7862
NSP	0.947	1.249	1.845	2.009	13.2055*
SPR	3.663	3.527	2.655	3.176	3.9996*
TPS	4.611	4.273	4.500	4.261	.0289
MTR	35.688	6.146	37.317	5.953	3.2357

Males and females of the Academic group. Dividing the Academic group according to sex, it can be seen from Table VI that the female students of this group participated in significantly more non-sports activities and received higher mean teacher ratings than did the males. No other significant differences were observed between the means of male and female students doing the Matriculation course.

Males and females of the General group. Table VII presents data concerning males and females from the General program. As with their counterparts in the Matriculation group, females in the Non-Matriculation group participated in significantly more non-sports-related activities than did the male students. In the case of participation in sports and related activities, the reverse situation was found, with the males taking part in significantly more sports than did the females. Among the General group,

TABLE VI

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES FOR MALES AND FEMALES OF THE ACADEMIC GROUP

Variable	Males		Females		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	44.636	5.859	44.441	6.954	.0289
ATY	51.788	6.176	49.712	6.494	3.3489
NSP	1.136	1.346	2.051	2.063	8.7616*
SPR	3.677	3.852	3.000	3.543	1.0000
TPS	4.803	4.763	5.051	4.666	.0841
MTR	37.662	5.003	39.432	4.506	4.2025*

TABLE VII

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE SCORES FOR MALES AND FEMALES OF THE GENERAL GROUP

Variable	Males		Females		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
ATS	42.448	10.858	44.040	7.824	.3721
ATY	51.241	7.731	50.680	5.914	.0900
NSP	0.517	0.871	1.360	1.823	4.9284*
SPR	3.655	2.703	1.840	1.886	7.9524*
TPS	4.172	2.892	3.200	2.769	1.5876
MTR	31.195	6.063	32.327	6.048	.4624

mean scores of males and females on the remaining parts of the research instrument did not differ significantly.

Transported Students Compared with Non-Transported Students

As can be seen from Table VIII, when the three participation scores were analyzed according to whether the student was or was not transported, no significant differences were found between the transported and non-transported groups.

TABLE VIII

MEANS, STANDARD DEVIATIONS, AND ANALYSIS OF VARIANCE OF THE PARTICIPATION SCORES OF TRANSPORTED AND NON-TRANSPORTED STUDENTS

Variable	Transported		Non-Transported		F.
	Mean	Standard Deviation	Mean	Standard Deviation	
NSP	1.2714	1.365	1.5287	1.999	1.4884
SPR	3.4022	3.355	2.9655	3.442	0.7396
TPS	4.6196	4.068	4.4943	4.469	0.0400

Summary

This section of the current chapter has presented by course of study and sex of the students the means, standard deviations and analysis of variance scores for the various groups comprising the sample. The results are described in more detail in the remainder of this chapter.

RESULTS FROM SPECIFIC PARTS OF THE RESEARCH INSTRUMENT

The attitude-toward-school and attitude-toward-self parts of the semantic differential, the questionnaire dealing with participation in extra-curricular activities, and the scale on which teachers rated students each yielded its own unique results. It is the aim of this section of Chapter 4 to present a more detailed analysis of these results, examining the findings from each part of the research instrument. The results were analyzed with respect to the course in which the students were enrolled as well as the sex of the respondents.

Attitude Toward School

Data concerning attitude toward school are represented in Table IX and Figure 1. These representations offer a comparison of the attitude-toward-school score distributions of the Academic and General groups.

TABLE IX

ATTITUDE-TOWARD-SCHOOL SCORES OF THE ACADEMIC AND GENERAL GROUPS

Score	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
12–20	0	0.0	2	100.0
21–30	5	71.4	2	28.6
31–40	22	61.1	14	38.9
41–50	79	74.5	27	25.5
51–60	19	67.9	9	32.1

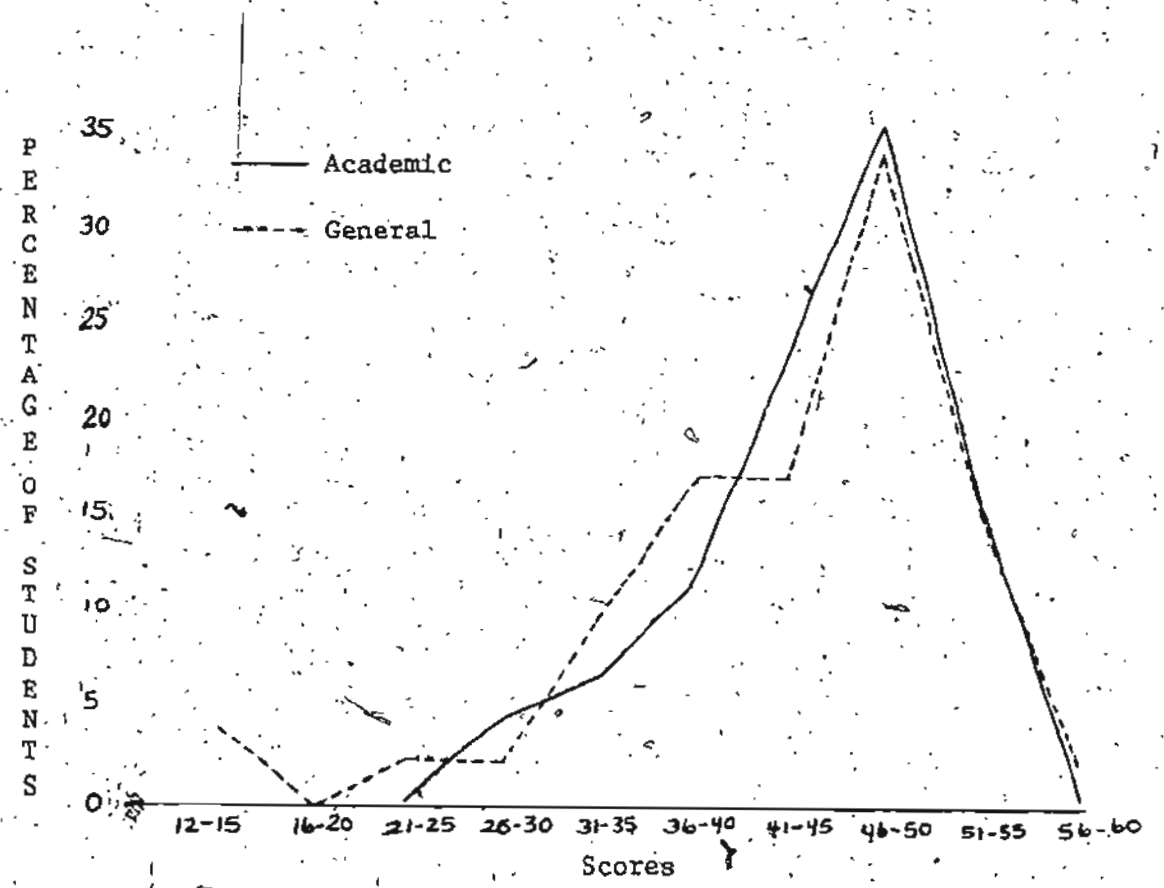

FIGURE 1

ATTITUDE-TOWARD-SCHOOL SCORE DISTRIBUTIONS FOR THE ACADEMIC AND GENERAL GROUPS

The Academic group compared with the General group. As can be seen from Table IX, with the exception of the two students from the General group who scored in the 12-20 range, the relative percentages from each group scoring within the various ranges were not very different from the overall proportions of each curricular group in the total sample. Figure 1 supports this observation.

The range of 12 to 60 for the General group was considerably wider than that of 27 to 55 observed for the Academic group. However, although the lowest score of any student on the General program was 12, compared with a low of 27 for the Academic group, it is worth noting that only two students from the General group obtained a score of 12; the next lowest score in the General group was 25. Thus, the scores were dispersed in a similar manner for both groups.

Although the mean attitude-toward-school score of 44.544 for Matriculants was higher than the score of 43.185 discovered among Non-Matriculants, the difference between the two scores was not significant at the accepted level. The medians of the two curricular groups on the attitude-toward-school data were also very similar, with the median for the Academic group being 45.571, slightly higher than the figure of 45.000 for students doing the General course.

Comparisons between male students of the two curricular programs, as depicted in Table III, page 44, revealed that males on the Academic program obtained a mean attitude-toward-school score of 44.636, more than two points greater than the mean score of 42.448 for males doing the General course. The difference between the mean attitude-toward-school scores of females in the two groups, while in the same direction as for the males, was not as great. The mean of 44.441 for female Matriculants was

only slightly higher than that of 44.040 for female Non-Matriculants.

The lowest mean attitude-toward-school score of any group in the study was 42.448 for males of the General group, somewhat lower than the next lowest mean of 44.040 for females of the same group, as can be seen in Table VII, page 47.

Males compared with females. When the results were further analyzed according to the sex of the respondents, it was found that, for the whole sample, as shown in Table V, the mean attitude-toward-school score of 44.321 for the females was slightly higher than the mean of 43.968 for the males.

Among students on the Academic program, the mean score on the attitude-toward-school part of the semantic differential was 44.636 for the males, slightly higher than that of 44.441 for the females. This can be seen in Table VI. In contrast with the General group, as Table VII shows, this situation was reversed. The mean attitude-toward-school score of 44.040 for females of the General group was considerably, although not significantly, higher than the mean of 42.448 observed among the males.

Summary. There were no significant differences between the attitude-toward-school scores of students in the Academic group and those in the General group. Nor were the score distributions noticeably different.

Same-sex comparisons between the Academic and General groups revealed differences, although not significant. Both males and females enrolled in the Academic course obtained higher mean attitude-toward-school scores than did their counterparts in the General group, with the difference between the males being greater than the difference between the females.

When males and females were compared, differences, although not significant at the .05 level, were discovered. The females had a generally higher attitude-toward-school score than did the males. This difference was also found for students doing the General course. In the Academic group, the difference between the mean scores of the two sexes was very slight, with the males recording the higher score.

Attitude Toward Self

The relative score distributions of the two curricular groups on the attitude-toward-self part of the semantic differential are illustrated in Table X and Figure 2.

TABLE X

ATTITUDE-TOWARD-SELF SCORES OF THE ACADEMIC AND GENERAL GROUPS

Score	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
26-35	1	50.0	1	50.0
36-45	27	73.0	10	27.0
46-55	65	70.7	27	29.3
56-65	32	66.7	16	33.3

The Academic group compared with the General group. There were no outstanding deviations from expected score patterns for the Academic and General groups as shown in Table X. In the case of the 26-35 interval, the fact that only one individual from each group scored at this point, suggests that the relative percentages of 50-50 might not be very meaningful.

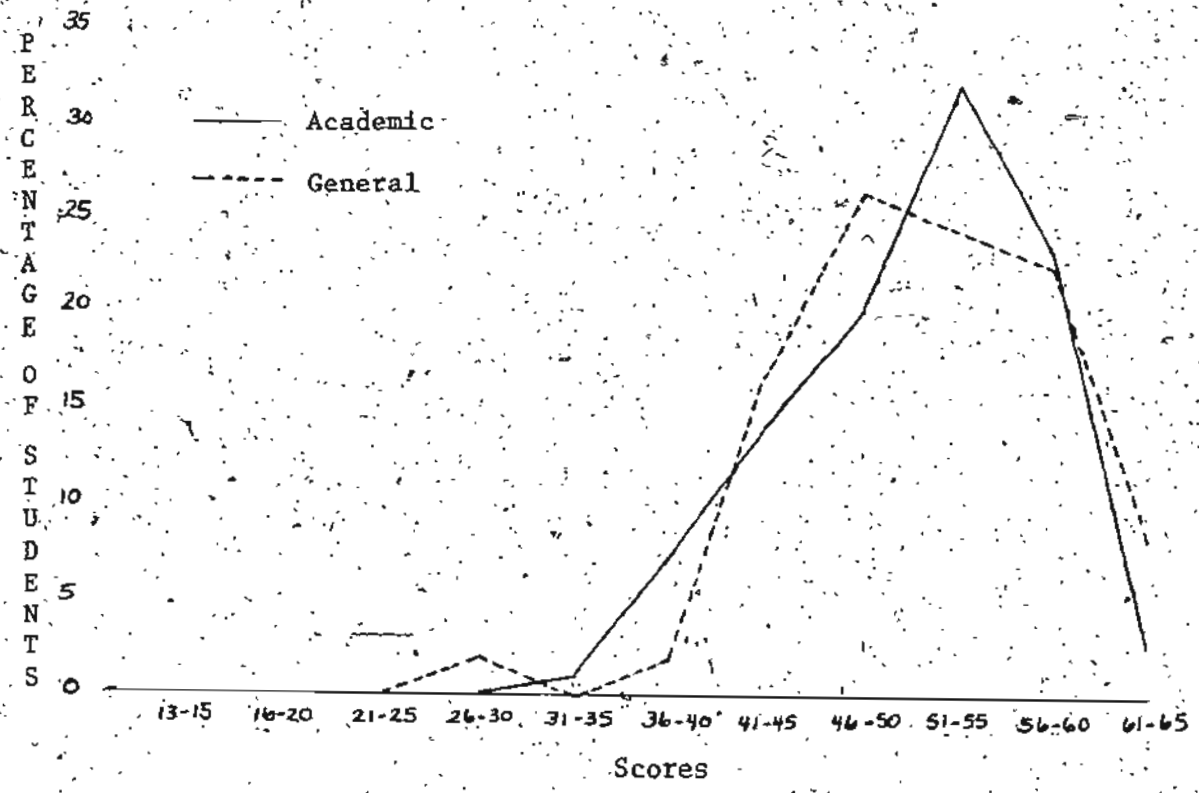

FIGURE 2

ATTITUDE-TOWARD-SELF SCORE DISTRIBUTIONS FOR THE ACADEMIC AND GENERAL GROUPS

The attitude-toward-self scores were distributed in much the same way for students in both curricular streams, as can be seen from Figure 2.

The ranges for both groups were very similar (35 to 64 for the Academic group, compared with 30 to 65 for the General group). The median score of 51.688 for the Matriculation group differed only slightly from the Non-Matriculation group's median of 51.000. Likewise, the mean attitude-toward-self scores of the two groups were not significantly different, with the mean score for the Academic group calculated at 50.808, and, for the General group, 50.981, as shown in Table II. However, there was a noticeable difference between the modal scores of Matriculants and Non-Matriculants. Thirty-two percent of the students on the Matriculation program scored within the modal range of 51 to 55 for that group, whereas about 26% of the General group obtained a score which fell within their modal range of 46 to 50. This information is contained in Figure 2.

Apart from the modal frequencies, there were no outstanding differences between the Academic and General groups in relation to distributions and descriptive statistics derived from the attitude-toward-self data.

Mean attitude-toward-self scores for students of the same sex on the two curricular programs were not significantly different. Table III shows that males on the Academic program obtained a mean attitude-toward-self score of 51.788, while the mean for males enrolled in the General course was 51.241. The opposite was true in the case of the females, as indicated in Table IV. The mean score of 49.712 for females of the Academic group was slightly lower than the mean of 50.680 for female students on the General program.

Males compared with females. As Table V shows, the mean attitude-toward-self scores of males and females in the total sample did not differ significantly, although the mean of 51.621 for males was noticeably higher than the mean of 50.000 observed for females.

Comparing the scores of males and females within each curricular group, patterns similar to those for the whole sample were found. In the Academic group, as depicted in Table VI, the mean attitude-toward-self score of 51.788 for the males was considerably higher than the mean of 49.712 for the female students. The General group exhibited a similar trend, as shown in Table VII, with a mean of 51.241 for the males, compared with 50.680 for the females.

Summary. The two curricular streams did not differ significantly with respect to mean attitude-toward-self scores. The median for the Academic group was slightly higher than that for the General group. Most of the students on the Academic program scored at the 51 to 55 range; the mode for the General group was a little lower, at 46 to 50.

No significant differences were discovered when males of the two programs were compared. The mean for males on the Academic program was only slightly higher than the mean for males doing the General course. The situation was reversed for females, with female students of the General group having the higher mean.

In the case of the whole sample, as well as the two curricular groups, males obtained higher attitude-toward-self scores than did their female contemporaries. The differences, however, were not significant at the accepted level.

Participation in Extra-Curricular Activities

The last part of the student questionnaire[2] contained questions dealing with participation in various types of extra-curricular activities. Each student's total participation score (TPS) was determined by the number of extra-curricular activities in which he participated plus the number of offices he held. The TPS was equivalent to the sports and related activities (SPR) score plus the non-sports activities (NSP) score.

To facilitate a closer investigation of the results obtained from the participation questionnaire, separate scores were computed for participation in non-sports activities as well as for participation in sports and related activities. The results are here discussed in relation to participation in non-sports activities, participation in sports and related activities, and participation in various types of extra-curricular activities.

Participation in Non-Sports Activities

This division of the present chapter provides a description of the patterns of participation in extra-curricular activities other than sports. The relative proportions of students from the two groups taking part in specified numbers of activities are given in Table XI. Figure 3 shows the percentages of each group participating in these non-sports activities.

The Academic group compared with the General group. Some outstanding contrasts were discovered between these two groups with respect to participation in non-sports activities. About 59.3% of the students on the General program did not take part in any of these activities. In comparison, only

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[2] Appendix F.

TABLE XI

RELATIVE PROPORTIONS OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN NON-SPORTS ACTIVITIES

Number of Activities	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
0	40	55.6	32	44.4
1	37	82.2	8	17.8
2-3	32	76.2	10	23.8
4-5	12	80.0	3	20.0
6-10	4	80.0	1	20.0

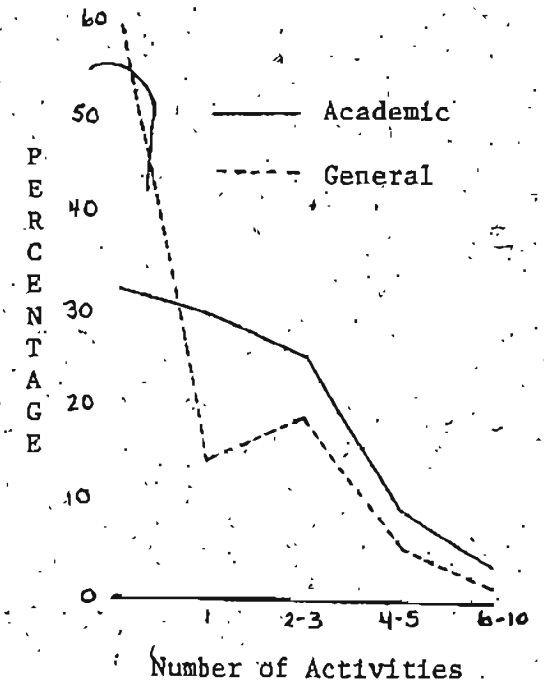

FIGURE 3

PERCENTAGES OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN NON-SPORTS ACTIVITIES

32% of the Academic group participated in no non-sports activities. A similar pattern was noted for various numbers of these activities. For example, only 15% of the General group participated in one non-sports activity, compared with about 30% of the students on the Academic program. Similarly, greater percentages of students on the Academic program than on the General program took part in 2 to 3, 4 to 5, and 6 to 10 activities. The maximum number of non-sports activities in which any student on the General program participated was 6, in comparison with a high of 10 for students enrolled in the Academic course. These comparisons are illustrated in Table XI and Figure 3.

As Table II shows, there was quite a difference between the mean participation in non-sports activities (NSP) of the Academic and General groups. Students on the Academic program took part in an average of 1.568 of these activities, while the comparable figure for the General group was 0.907. This difference was found to be significant at the .05 level.

From Table III it can be seen that males doing the Academic program had a significantly higher mean NSP score (1.136) than that (0.517) found for males in the General group. In comparison, Table IV shows that the mean non-sports participation score of 2.051 for females of the Academic group was considerably, but not significantly, higher than the figure of 1.360 noted for females doing the General course.

Males compared with females. For the whole sample, the female students took part in a significantly greater number of non-sports activities than did the males. Table V shows that the mean NSP score of 1.845 for the females was about twice as high as the mean of 0.947 found for

males. This same trend was discovered within the two curricular groups. As indicated in Table VI, for the Academic group, the mean of 2.051 for the females was significantly higher than the figure of 1.136 noted for the males. As can be seen in Table VII, students enrolled in the General course exhibited the same pattern. A significant difference was found between the mean NSP score of 1.360 for the females and 0.517 for male students.

Transported students compared with non-transported students. No significant difference was found between the mean NSP scores of the transported and non-transported groups. Table VIII, page 48, indicates that the mean NSP score of 1.5287 for the non-transported students was slightly higher than the mean of 1.2714 for the transported group.

Summary. Considering both curricular groups collectively, students doing the Academic course took a more active part in non-sports activities than did students in the General group. The difference between the means of the two groups was significant at the .05 level.

Significant differences were also discovered when students of the same sex enrolled in different courses were compared. Males of the Academic group participated in significantly more non-sports activities than did their counterparts in the General group. Similarly, a greater degree of participation in non-sports-related activities was found among females doing the Academic course than among those enrolled in the General program, although the difference was not statistically significant at the established level.

In the total sample, and in both curricular streams, the females

participated in significantly more activities of the non-sports variety than did the males.

A comparison of the transported and non-transported students revealed no significant difference between these two groups with respect to participation in non-sports activities.

Participation in Sports and Related Activities

A ready comparison of the numbers of students in the Academic and General groups taking part in sports and related activities is presented in Table XII. Supplementing the tabular illustration is Figure 4 which shows the relative patterns of participation in sports-type activities.

The Academic group compared with the General group. The participation patterns observed concerning sports and related activities were in marked contrast to those found in relation to non-sports activities. Table XII shows that the greater proportion of students not participating in any sports-type activities were from the Academic group. In contrast, a greater percentage of students from the Academic group took part in one activity. At the 2 to 3, 4 to 5, and 6 to 10 intervals, a greater percentage of the General group than would be expected according to their representation in the total sample took part in sports-type activities.

The differences between the two streams are accentuated in Figure 4. A greater percentage (80%) of the students on the General program than on the Academic program (70%) participated in sports-type activities. However, the greatest number of these activities in which any of the students on the General program participated was 9, with only one student (or 1.9% of the General group) taking part in that number. In contrast, almost 13% of the students doing the Academic course took part in 9 or more sports-type

TABLE XII

RELATIVE PROPORTIONS OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN SPORTS AND RELATED ACTIVITIES

Number of Activities	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
0	38	70.5	16	29.5
1	14	82.4	3	17.6
2-3	26	63.4	15	36.6
4-5	18	66.7	9	33.3
6-10	20	64.5	11	35.5
11-14	9	100.0	0	0.0

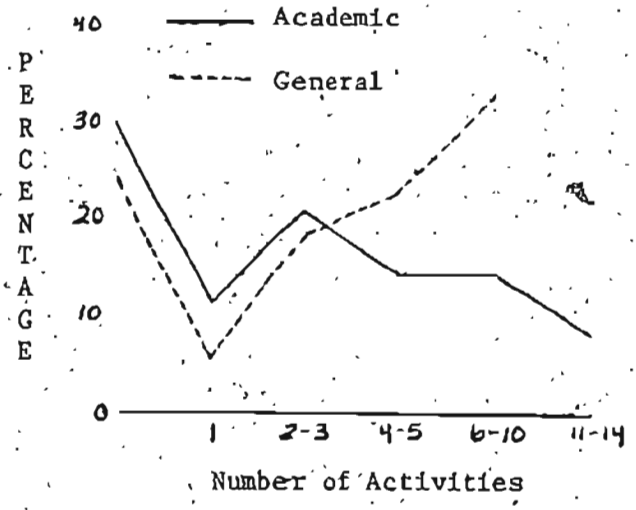

FIGURE 4

PERCENTAGES OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN SPORTS AND RELATED ACTIVITIES

activities, with the maximum for any one student being 14. More students from the General group (53%) than from the Academic group (29%) participated in 4 to 10 activities of the sports type.

It can be seen from Table II that the mean participation in sports and related activities (SPR) scores of the Academic and General groups were different. The mean SPR score for the Academic group was 3.352, compared with 2.815 for the General group. The difference between these scores, although considerable, was not significant at the pre-established probability level.

When males enrolled in the Academic course were compared with those on the General program, no significant difference between the mean SPR scores was observed. This is illustrated in Table III. Male Matriculants obtained a mean SPR score of 3.667; their counterparts in the Non-Matriculation group had a comparable mean of 3.655. Among the females, those in the Academic group had a mean of 3.000, not significantly higher than the score of 1.840 for females in the General group. This difference can be seen in Table IV.

Males compared with females. A comparison of the mean SPR scores of males and females, given in Table V shows that there was a significant difference between these scores. The males took part in an average of 3.663 sports and related activities, compared with 2.655 for the females.

Comparing males and females of the Academic group, there was no significant difference between their mean SPR scores. But, again, as Table VI shows, the mean of 3.667 for the males was higher than that of 3.000 calculated for the females of the group. In contrast, within the General

group, the mean SPR score for male students was 3.655, significantly higher than the females' mean of 1.840, as can be seen in Table VII.

Transported students compared with non-transported students. The mean SPR score (3.4022) of the transported group was not significantly different from that of 2.9655 found for the non-transported group, as indicated in Table VIII.

Summary. The patterns of participation in sports and related activities were very similar for students of the Academic and General groups. Although the Academic group had a higher mean SPR score, the difference between the means of the two groups was not significant.

There was no significant difference between the mean SPR scores of males in the two curricular groups. Similarly, the mean for females on the Academic program was not significantly higher than that obtained by females doing the General course.

In the sample as a whole, and within the General group, the males obtained significantly higher mean SPR scores than did the females. In the Academic group as well, a higher mean score was noted for the male students than for the females.

No significant difference was noted between the SPR scores of the transported and non-transported groups.

Participation in Both Sports and Non-Sports Activities

The following two illustrations compare the total participation scores of the Academic and General groups. The total participation score

TABLE XIII

RELATIVE PROPORTIONS OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN BOTH SPORTS AND NON-SPORTS ACTIVITIES

Number of Activities	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
0	17	58.6	12	41.4
1	16	84.2	3	15.8
2-3	31	75.6	10	24.4
4-5	20	62.4	12	37.6
6-10	22	56.4	17	43.6
11-15	15	100.0	0	0.0
16-20	4	100.0	0	0.0

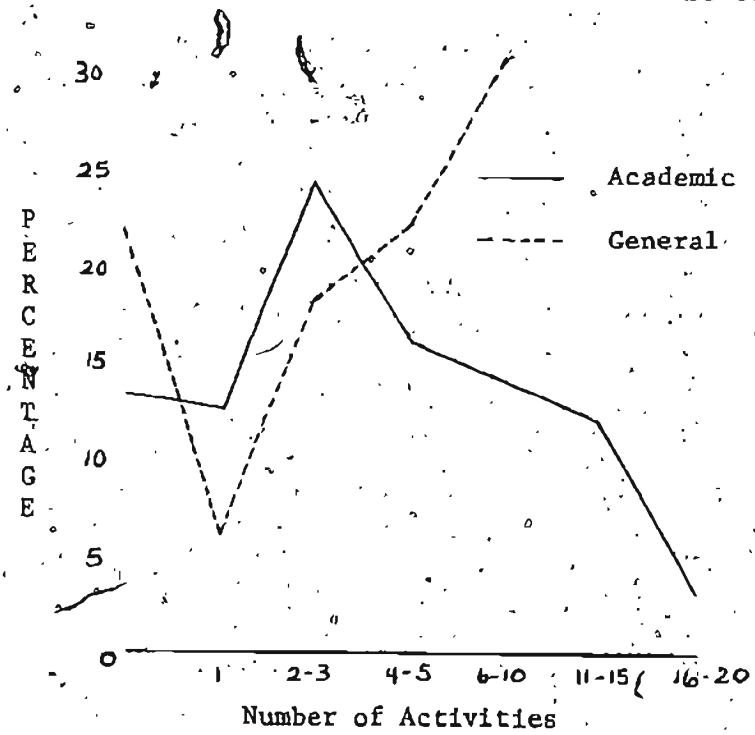

FIGURE 5

PERCENTAGES OF THE ACADEMIC AND GENERAL GROUPS PARTICIPATING IN BOTH SPORTS AND NON-SPORTS ACTIVITIES

(TPS) of each student consisted of the total of the non-sports (NSP) activities plus the sports and related (SPR) activities.

The Academic group compared with the General group. Certain outstanding differences were noted between the total participation scores of the Academic and General groups. Only 13.6% of the students on the Academic program did not participate in any extra-curricular activities, compared with 22.2% of the students in the General group. More students from the Academic group than from the General group took part in 1, 2 or 3 activities. On the other hand, about 54% of the General group participated in 4 to 10 activities, compared with approximately 30% of the Academic group. It is also interesting to note that, while no student on the Non-Matriculation program took part in more than 9 extra-curricular activities, more than 18% of the Matriculants participated in from 10 to 19 activities.

In comparison with the mean total participation score (TPS) of 3.722 for the General group, as Table II indicates, the mean TPS for the Academic group was considerably, although not significantly, higher, at 4.920. Thus, there was no significant difference between the mean total participation scores of the two curricular streams.

As presented in Table III, the mean total participation score (4.803) of males of the Academic group was not significantly different from that (4.172) calculated for males in the General group. For the females, the difference was still in the same direction, but much greater. Nevertheless, the mean TPS of 5.051 for females on the Academic program was not significantly higher than the figure of 3.200 found for females enrolled in the General course. These figures are contained in Table IV.

Males compared with females. When males were compared with females in the total sample, no significant difference between the mean total participation scores was found. As shown in Table V, the overall mean TPS of 4.611 for the males was only slightly higher than the females' mean of 4.500.

A similar situation was discovered in both curricular groups. Table VI shows that the difference between the mean TPS of 4.803 for males and 5.051 for females on the Academic program was not significant. Within the General group, as indicated in Table VII the difference between the means for males and females, although greater than that found in the Academic group, was found to be not significant. The mean of 4.172 for the males was considerably higher than that of 3.200 for females on the General program.

Transported students compared with non-transported students. When the mean total participation scores of transported and non-transported students were compared, no significant difference was found. The mean of 4.4943 for the non-transported group was slightly lower than the figure of 4.6196 for the transported students, as shown in Table VIII.

Summary. The score distributions of participation in both sports and non-sports activities were considerably different for the Academic and General groups. There was a generally higher degree of participation among students enrolled in the Academic program. However, the mean total participation scores of the two curricular groups did not differ significantly.

There was no significant difference between the mean total parti-

cipation scores of males in the two curricular streams, as was also the case with the females. Females of the Academic group obtained a considerably higher mean TPS than did their counterparts in the General group.

For the total sample, the males obtained a higher mean total participation score than did the females. This was also the case with the General group. However, among students on the Academic program, the females had a slightly higher mean TPS.

The total participation scores of transported and non-transported students were not significantly different.

Ratings of Students by Teachers

The numbers of students in each curricular group obtaining mean teaching ratings within specified ranges are given in Table XIV. The distributions of ratings for the two groups are compared in Figure 6.

The Academic group compared with the General group. From Table XIV it can be seen that students on the General program received noticeably lower mean teacher ratings than did students of the Academic group. The General group obtained a disproportionately large percentage of the ratings in the categories from 16 to 35. In comparison, the Academic group were given the greater proportion of the 36 to 50 ratings.

Figure 6 also shows that the distributions of mean teacher ratings were considerably lower for students of the General group than for those enrolled in the Academic course. Teachers gave students from the General classes mean ratings ranging from 16.33 to 42.67. In comparison, students on the Academic program received ratings of from 23.00 to 49.00. While no student in the Academic group received a rating of less than 23.00, over 7% of the students in the General group were given ratings lower than this

TABLE XIV

RELATIVE MEAN TEACHER RATINGS OF THE ACADEMIC AND GENERAL GROUPS

Mean Teacher Rating	Academic (69.8% of Sample)		General (30.2% of Sample)	
	Number of Students	Percentage of Total	Number of Students	Percentage of Total
16-20	0	0.0	2	100.0
21-25	1	16.7	5	83.3
26-30	5	27.8	13	72.2
31-35	29	60.4	19	39.6
36-40	40	75.5	13	24.5
41-45	40	95.2	2	4.8
45-50	10	100.0	0	0.0

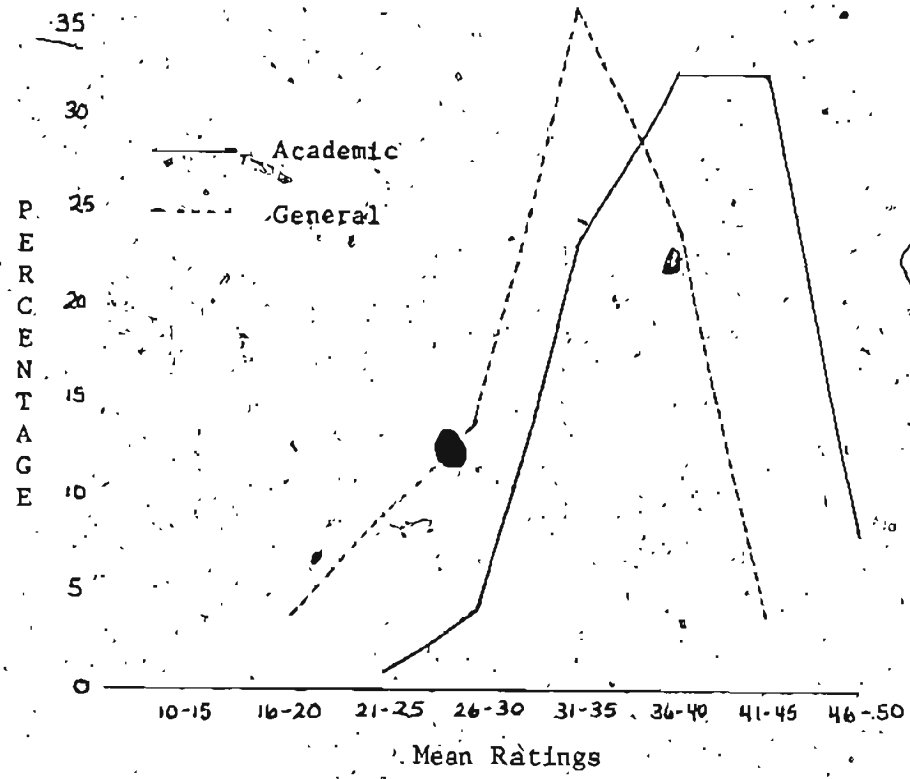

FIGURE 6

DISTRIBUTIONS OF MEAN TEACHER RATINGS OF THE ACADEMIC AND GENERAL GROUPS

figure. Also, the highest mean teacher rating of students in the General group was 42.67. For students in the Academic group, the high was 44.67, with 11% of that group getting mean teacher ratings higher than 42.67.

An investigation of the mean MTR's presented in Table II, page 44, revealed a statistically significant difference between the two curricular groups. The mean MTR of 38.497 for students of the Academic group was considerably higher than the corresponding figure of 31.179 for students on the General program. Thus, teachers gave higher ratings to students in the Academic group than to students doing the General course.

When students of the same sex from the Academic and General groups were compared, significant differences were discovered between the MTR's. Table III shows that the mean MTR of 37.662 for males of the Academic group was significantly greater than the mean of 31.195 for males in the General group. Similarly, as can be seen in Table IV, females doing the Academic course received a mean MTR of 39.432, significantly higher than the figure of 32.327 observed for females doing the General program.

Males compared with females. Table V gives the comparative mean teacher ratings (MTR's) of males and females, irrespective of course of study. Although the mean MTR for the females (37.317) was considerably higher than that of 35.688 for the males, this difference was not significant at the established level.

However, there was a significant difference between the mean ratings of males and females on the Academic program, as shown in Table VI. The mean MTR for the females of the Academic group was 39.432, compared with 37.662 for males of the same group. In the case of the General group, the mean rating for the females (32.327) was again higher than that of 31.195

for the males. As can be seen in Table VII this difference was not significant at the .05 level.

Summary. Examination of the mean teacher ratings showed that there were differences between the distributions and means for the two curricular groups, with students of the Academic group getting significantly higher ratings.

In the case of same-sex comparisons, both males and females in the Academic group were given significantly higher mean MTR's than were their counterparts in the General group.

The difference between the mean MTR's of males and females in the total sample was not significant. But the females did receive a considerably higher mean MTR than did the males.

Within both curricular groups, females obtained higher mean MTR's than did the males. For the Academic group, this difference was significant; within the General group, the difference, although considerable, was not significant.

Generally, students of the Academic group received higher mean teacher ratings than did students of the General group. Also, females obtained higher ratings than the males in the total sample and in both curricular groups.

RELATIONSHIPS AMONG VARIABLES

Correlations were calculated among the attitude toward school, attitude toward self, mean teacher rating and the three participation scores for both curricular groups. In addition, the significance of the

differences between correlations for the two groups was determined as well as correlations among the three teacher ratings.

Correlations Among the Different Variables

The Pearson Product Moment correlations among attitude toward school (ATS), attitude toward self (ATY), mean teacher ratings (MTR), participation in non-sports activities (NSP), participation in sports and related activities (SPR), and the total participation scores (TPS) are presented in Table XV for the Academic group and Table XVI for the General group.

Correlations for the Academic group. Table XV gives the correlations calculated for students enrolled in the Academic program.

TABLE XV

PEARSON PRODUCT MOMENT CORRELATIONS FOR THE ACADEMIC GROUP

Variable	ATS	ATY	NSP	SPR	TPS
ATY	0.4475*				
NSP	0.1949*	0.1904			
SPR	0.0679	0.1676*	0.3931*		
TPS	0.1272	0.2042*	0.6880*	0.9378*	
MTR	0.1707*	0.1234	0.5791*	0.4447*	0.5697*

Significant correlations were found between the attitude-toward-school and attitude-toward-self scores of students in the Academic group. The attitude-toward-school scores also correlated significantly with the participation in non-sports activities scores and the mean teacher ratings.

In addition to their correlations with the attitude-toward-school scores, the attitude-toward-self scores showed significant correlations with the participation in sports and related activities and the total participation scores. The various participation scores correlated significantly with one another as well as with the mean teacher ratings. No other significant correlations were noted for the Academic group.

Correlations for the General group. Statistics similar to those presented in the preceding table, are contained in Table XVI for the General group.

TABLE XVI

PEARSON PRODUCT MOMENT CORRELATIONS FOR THE GENERAL GROUP

Variable	ATS	ATY	NSP	SPR	TPS
ATY	-0.0848				
NSP	0.1042	0.1610			
SPR	0.1956	0.1078	-0.0360		
TPS	0.2251	0.1764	0.4748*	0.8624*	
MTR	0.0693	0.0713	0.3985*	0.0859	0.2774*

As the above table illustrates, the total participation scores of the General group correlated significantly with the participation in sports and participation in non-sports activities scores. This was to be expected since the TPS for each student consisted of the total of his NSP and SPR scores.

The mean teacher ratings showed significant correlations with the NSP and TPS scores but not with the SPR scores. Comparisons of the

remaining scores of the General group revealed no other significant correlations, but it is interesting to note that negative (although not significant) correlations existed between the ATS and ATY scores, as well as between the NSP and SPR scores.

Significance of the Differences Between Correlations

As a means of comparing the correlations observed for the two curricular groups, and to discover if the differences between correlations were sufficiently significant, the significance of the differences between correlations was calculated using Fisher's z. The differences between correlations are illustrated in Table XVII.

TABLE XVII

DIFFERENCES BETWEEN CORRELATIONS OF THE ACADEMIC AND GENERAL GROUPS

Variable	ATS	ATY	NSP	SPR	TPS
ATY	3.413*				
NSP	0.557	0.186			
SPR	0.766	0.371	2.713*		
TPS	0.617	0.156	1.982*	2.665*	
MTR	0.617	0.335	1.425	2.353*	2.192*

As can be seen from Table XVII, several significant differences were identified between the correlations calculated for the Academic and General groups.

The two groups differed significantly with regard to correlations between the attitude-toward-school and attitude-toward-self scores, with the Academic group having a significantly higher correlation. As noted

earlier, for the General group, a negative, although insignificant, correlation was found between the two attitude measures.

Significant differences were also identified between the intercorrelations of the three participation scores for both groups. These differences may be explained, at least in part, by the fact that significantly more students from the Academic than from the General group[3] participated in activities of the non-sports type. It appears logical that this difference was also reflected in the total participation scores, and created the significant discrepancies between correlations. Also, the significant difference observed between the correlations of the total participation scores with mean teacher ratings could, at least to some extent, be explained by the differences between participation scores of the two curricular groups.

Correlations Among Ratings of Students by Teachers

With a view to examining the comparability of different teachers' ratings of students, Pearson Product Moment correlations were calculated among the ratings of the same students by different teachers. The correlations were done separately for each class. The correlations among teacher ratings of students in the four Academic and three General classes are presented in the two following tables.

The Academic group. The correlations among the three teacher ratings of students in the Academic classes are given in Table XVIII.

[3]See Table II, page 44, and Table XI and Figure 3, page 58.

TABLE XVIII

CORRELATIONS AMONG TEACHER RATINGS OF THE ACADEMIC GROUP

Class	Correlated Ratings		
	1 with 2	2 with 3	1 with 3
A_1	0.7267*	0.6447*	0.6090*
A_2	0.7697*	0.3701*	0.5249*
A_3	0.5189*	0.6211*	0.3476*
A_4	0.0477	0.5091*	0.3755

A substantial number of significant correlations were discovered among the three teacher ratings of students in the Academic classes. Of the 12 correlations calculated, 10 (83.3%) were significant at the established level, indicating that teachers were relatively consistent in non-academic ratings of the same students. In each class, at least two of the teacher ratings correlated significantly.

The General group. For the General group, correlations of teacher ratings for each class are contained in the following table.

TABLE XIX

CORRELATIONS AMONG TEACHER RATINGS OF THE GENERAL GROUP

Class	Correlated Ratings		
	1 with 2	2 with 3	1 with 3
G_1	0.6212*	0.7237*	0.1718
G_2	0.3224	0.3912	0.4222*
G_3	0.5225*	0.4280*	0.6230*

As with ratings given the Academic group, teacher ratings of students in the three General classes were found to correlate significantly in a considerable number of cases. Table XIX reveals that 66.7% or 6 of the 9 correlations were significant, yielding a slightly lower degree of concurrence among teacher ratings than was found in the Academic group.

SUMMARY

A general outline of the findings of this study, a discussion of the results from particular parts of the research instrument, and an examination of the correlations found among variables were considered in this chapter.

The results showed that the Academic and General groups did not differ significantly in their attitude-toward-school or attitude-toward-self scores. Nor were there any significant differences between the sexes, or between students of the same sex in different curricular groups on these attitude scores.

An examination of the participation patterns revealed that students of the Academic group participated in significantly more activities of the non-sports variety than did students of the General group. Females in the whole sample, and in each curricular group, took part in significantly greater numbers of these activities than did the males. Also, males of the Academic group participated in significantly more non-sports activities than did their counterparts in the General group.

Considering sports and related activities, it was noted that no significant differences existed between the mean SPR activities of the Academic and General groups. However, males of the General group, as well as of the total sample, participated in significantly more SPR activities

than did the females. Within the Academic group, although the difference was not significant, the males had a higher mean SPR score than did the females. No significant difference was found between the mean SPR scores of males in the two curricular groups. A similar result was discovered in the case of the two female groups.

When the mean total participation scores of the Academic and General groups were compared, no significant difference was discovered. The same situation held true between males and females as well as between males of the two curricular streams. Also, female students on the Academic program did not have a significantly different mean TPS than did females enrolled in the General course.

A comparison of transported and non-transported students showed that the two groups did not differ significantly on any of the three participation scores.

The mean MTR's of students in the Academic group were significantly higher than the mean MTR's received by the General group. No significant differences were found between the mean MTR's of males and females in the total sample or within the General group. However, females of the Academic group were given significantly higher mean MTR's than males of the same group. When students of the same sex in different curricular groups were compared, in both cases, students doing the Academic course received significantly higher ratings.

An examination of the correlations for the Academic group showed that the ATS scores correlated significantly with the ATY, NSP, and MTR scores. The ATY scores also showed significant correlations with the SPR and TPS scores. All three participation scores correlated significantly with one another and with the mean teacher ratings.

For the General group, while the NSP and SPR scores did not correlate with each other significantly, all other correlations among the three participation scores were significant. In addition, the NSP and TPS scores correlated significantly with the MTR's.

When the differences between these correlations were calculated, significant differences were noted between the ATS-ATY correlations, as well as between the intercorrelations of the different participation scores. The correlations of the MTR with the TPS and SPR scores were also found to be significantly different for the two curricular groups.

The latter part of this chapter examined the intercorrelations among the three teacher ratings. In the case of students in the Academic classes, 83.3% of the correlations were significant. For the General group, the comparable figure was 66.7%.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Further to the results presented in the preceding chapter, this chapter amplifies and attempts to offer some plausible explanations of the findings of this study. The concluding chapter is organized under the following headings: (1) Summary of Thesis, (2) Conclusions, (3) Implications and Recommendations.

SUMMARY OF THESIS

The basic aim of this study was to compare Grade 11 students enrolled in the Academic (Matriculation) program in three rural Newfoundland high schools with students enrolled in the General (Non-Matriculation) program on attitude toward school and self as determined by a semantic differential, participation in extra-curricular activities, and teacher ratings of student social behavior. It was felt that this research would give an indication of the relative adjustment to various aspects of school social life of students in the two curricular streams.

All Grade 11 students present in the three schools at the time of the data collection completed the two-part semantic differential and the questionnaire concerning participation in extra-curricular activities. Also, three teachers from each class of students taking part in the study, rated the students on a 10-item index of social behavior. After the data were scored, coded and punched on cards, a computer program gave descriptive

statistics, analysis of variance data, and correlations among variables for the Academic and General groups. In addition, some analysis of the results according to sex and home town of the students was carried out.

Analysis of the results obtained from the research instruments revealed that the Academic and General groups did not differ significantly with respect to attitude-toward-school and attitude-toward-self data. Similarly, further assessment of these attitudes showed that there were no significant differences between the sexes, or between groups of the same sex enrolled in different curricular programs.

When all available extra-curricular activities were considered, no significant difference was found between the total participation scores (TPS) of the two curricular groups. Further analysis of the total participation scores showed no significant differences between the sexes, or between students of the same sex doing different courses. However, when the extra-curricular activities were divided into sports as opposed to non-sports activities, significant differences were discovered. The Academic group as a whole had a significantly higher non-sports (NSP) score than did the General group. But, whereas the difference was significant in the case of the males, the higher mean NSP score of females of the Academic group was not significantly different from the mean obtained by females doing the General course. Within both curricular groups and in the total sample, females had a significantly higher mean NSP score than the males. When sports and related activities (SPR) were considered it was found that the two curricular groups did not differ significantly. Same-sex comparisons between the two groups also revealed no significant differences. But males in the total sample as well as in the General group had a significantly higher mean SPR score than did females.

Results from the rating scale showed significant differences between the mean teacher ratings (MTR's) of the two curricular streams, with students in the Academic group getting the higher mean. This difference between students in the two streams was found for both males and females. While male students in the total sample and within the General group did not differ significantly from their female counterparts, females on the Academic program received a significantly higher mean MTR than did males.

No significant difference was found between transported and non-transported students on any of the three participation scores.

Using the Pearson Product Moment formula, a number of significant correlations among different variables were found for each curricular group. Within the Academic group, the attitude-toward-school scores correlated significantly with the attitude-toward-self, participation in non-sports activities, and mean teacher rating scores. The attitude-toward-self scores also correlated significantly with the sports and related activities and total participation scores. Intercorrelations were discovered among the three participation scores which also correlated significantly with the mean teacher ratings. In the case of the General group, with the exception of the NSP-SPR correlation, the three participation scores correlated significantly in all instances. It was also found that the SPR and TPS scores correlated significantly with the mean teacher ratings. Significant differences were also discovered between some of the correlations found for the two curricular groups. When ratings of the same students by different teachers were correlated, the relationships were significant in over 76% of the cases, indicating a considerable degree of agreement among teachers in rating the social behavior of students.

From the analysis of the data follow conclusions, implications and recommendations, all of which are considered in the remainder of this concluding chapter.

CONCLUSIONS

Included in this section of the chapter are a discussion of the research questions posed in the initial chapter, rejections and acceptances of null hypotheses, and other findings uncovered by the study.

Research Questions

Of prime importance in assessing the findings of this research is a consideration of the three research questions. Discussion of these questions offers an overall comparison of the Academic and General groups concerning the variables studied. Since the second research question is essentially an expansion of the first, the two questions are considered collectively. Later in this section, the various findings are brought into perspective in considering the implications of this research.

Research question #1. Are there any significant differences between students enrolled in the Academic program and those enrolled in the General program on any or all of the variables studied?

Research question #2. Are there any particular attitude, participation, or teacher rating patterns characteristic of one or both groups?

The finding of no significant difference between the attitude toward school scores of the Academic and General groups is not consistent with the findings of other authors. Schafer and Olexa noted that non-college prep (General) students, unlike college prep students, tended to

develop negative attitudes and behavior toward school.[1] Similar observations were made by Chetcuti and Yates.[2] A closer look at the attitude-toward-school data revealed that the score distributions for the two groups were very similar.

Thus, according to the results of this study, students in the two curricular groups did not differ significantly on the attitude-toward-school index of social adjustment. This suggests that the generally negative attitudes toward school found by other authors as being characteristic of non-matriculation students were non-existent among the students in this study. Of course, one has to consider the problems involved in research of this type. One such problem might be the reluctance of students to be open about their feelings concerning school, even though their identities were kept confidential. Nevertheless, taking the results of the attitude-toward-school section of the semantic differential at face value, it must be concluded that the two groups did not differ significantly.

The results concerning student attitude toward self revealed no significant difference between the mean scores of the Academic and General groups. Other researchers have reported findings contradictory to this: Schafer and Olexa; Yates; and Findley[3] concluded that students in the lower

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[1] Walter E. Schafer and Carol Olexa, Tracking and Opportunity (Scranton: Chandler Publishing Company, 1971), p. 64.

[2] F. Chetcuti, "A Study of the Morale of A Stream and C Stream Pupils in Secondary Schools with Special Reference to any Differences in the Attitude and Behavior of Their Teachers," Educational Review, XIV (November, 1961), 51; Alfred Yates, The Organization of Schooling (London: Routledge and Kegan Paul, 1970).

[3] Schafer and Olexa, op. cit., p. 42; Yates, op. cit., p. 82; W. G. Findley and M. M. Bryan, Ability Grouping, 1970: Status, Impact and Alternatives (Athens, Georgia: Center for Educational Improvement, 1971), p. 3.

streams reported generally unfavorable self-concepts. It is virtually impossible to judge whether the attitude-toward-self scores of the students in this study were favorable or unfavorable, per se, or even, for that matter, accurate. It can only be said that, when compared, the two curricular groups of students were not significantly different in their attitude-toward-self scores. This finding is similar to those reported by several other writers. Dyson came to the conclusion that there appeared to be no relationship between ability grouping and the self-concept.[4] Similar findings were also reported by Borg.[5]

While no significant difference was discovered between the mean total participation scores (TPS) or the sports and related activities (SPR) scores of the Academic and General groups, a significant difference was noted between the two groups with regard to participation in non-sports activities. Students on the Academic program took part in significantly more activities of this type than did students on the General program. Moreover, the TPS distributions for the two groups were different in some respects. A proportionally higher percentage of the General group than of the Academic group did not participate in any extra-curricular activities whatsoever. At the higher, more involved, participation levels, all of the students who took part in 10 to 19 activities came from the Academic group. In the 4 to 10 activity range, the percentage of students from the General

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[4]Ernest Dyson, "A Study of the Relationships Between Acceptance of Self, Academic Self-Concept, and Two Types of Grouping Procedures Used with Seventh Grade Pupils," Dissertation Abstracts, XXVI (September, 1965), 1476.

[5]Walter R. Borg, Ability Grouping in the Public Schools (Madison, Wisconsin: Dembar Educational Research Services, Inc., 1966), p. 74.

group who participated in both sports and non-sports activities was considerably higher than that group's representation (30.2%) in the whole sample.

Generally, then, although there was no significant difference between the mean total participation scores of the two curricular groups, students of the Academic group took a more active part in these activities, especially at the higher levels of involvement.

The fact that students of the Academic group took a much more active part in non-sports activities than did students of the General group suggests that students on the General program may have developed a virtual aversion for non-sports, "academic-type" activities and, as other findings of this study indicate, oriented themselves toward sports-type activities. This appeared to be an even more distinct possibility in the case of male students.

Other authors have made no distinction between sports and non-sports activities. Referring to various types of extra-curricular activities, Monks found that higher ability students tended to take a more active part in school social life.[6] A similar situation was discovered by Schafer and Olexa.[7] Matteson, on the other hand, concluded that strong recreational interests did not seem to characterize any of the curricular groups.[8] If

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[6] T. G. Monks, Comprehensive Education in Action (Slough: National Foundation for Educational Research in England and Wales, 1971), p. 148.

[7] Schafer and Olexa, loc. cit.

[8] R. W. Matteson, "Educational Experiences, Academic Interests, and Curriculum Choices," Personnel and Guidance Journal, XXXIX (May, 1961), 720.

no distinction is made between sports and non-sports activities, Matteson's conclusion is somewhat similar to the findings of this study.

More unequivocal results were obtained in the case of ratings of students by teachers, with students in the Academic group receiving significantly higher mean teacher ratings than did students of the General group. In other words, teachers felt that Matriculation students were more socially mature and active than Non-Matriculation students. This finding concerning teacher ratings is not surprising, in view of the significant correlations between teacher ratings and most of the participation scores. Thus, teacher perceptions of student social behavior were largely consistent with students' own reports of social participation.

The finding that teachers usually gave lower social behavioral ratings to students in the lower curricular stream provides additional support for the findings reported by Chetcuti; and Schafer and Olexa.[9] The ratings of students by teachers take on added importance when the relationship of these ratings to other factors is considered, as will be seen in the later discussion of correlations.

Research question #3. Does the General-Academic dichotomy meet the needs of students with respect to the variables considered in this study?

This question is both the most crucial and most difficult to answer, since any instructional program should be aimed at meeting student needs, and there can be no definite answer — only inferences and implications.

When the results concerning student attitudes were assessed, no

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[9]Chetcuti, op. cit., p. 51; Schafer and Olexa, op. cit., p. 46.

great differences were found between the two curricular groups. Thus, both groups of students appeared to present similar adjustment patterns with respect to attitude toward school and attitude toward self. On this basis it can be said that placement in a particular curricular program does not seem to bear any relation to these two attitudes, and neither of the two curricular streams would appear to be more favorable than the other in helping students develop positive attitudes toward school or self.

Patterns of student participation in extra-curricular activities can be assessed with somewhat more confidence than can attitudes because of the more empirical nature of extra-curricular participation. While the mean total participation score was not significantly different for the two curricular groups, students of the Academic group did take a considerably more active part in extra-curricular activities, particularly activities of the non-sports type. The two groups did not differ appreciably with respect to participation in sports and related activities.

Several other authors have noted discrepancies in the participation patterns of different curricular groups. Schafer and Olexa felt that the non-college prep student is apt to feel left outside the mainstream of school social life. Furthermore, they concluded that students who participated most in extra-curricular activities were more likely to aspire to college.[10] This latter conclusion is supported by the finding of this study that students who participated most in extra-curricular activities came from the Academic group. Similar findings were reported by Ferri;

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[10] Schafer and Olexa, op. cit., p. 42.

and Monks.[11]

Relating the comparative participation patterns of the Academic and General groups to the needs of students, serious questions are raised concerning student participation in activities other than sports. The extra-curricular participation of students on the General program was confined largely to sports. Thus, these students appeared to be missing out in the more "academic" areas of social life such as various clubs and organizations. This could be related to the stigma some authors[12] contend students in the General track place on "academic-type" activities. The Academic group, on the other hand, probably placed more value on these more intellectual activities than did the General group, but still took a very active part in school sports. Considering student participation in various kinds of extra-curricular activities, with special emphasis on the non-sports type of activity, whether or not the social participation needs of students in the General stream were being met appears questionable. This matter will be considered further in relation to implications and recommendations.

An examination of the ratings of students by their teachers leads to speculation concerning why teachers gave lower social behavior ratings to students of the General group. The correlations of these ratings with most of the participation scores suggests that teachers' perceptions of student social participation were fairly accurate, which could explain why

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[11]Elsa Ferri, Streaming: Two Years Later (Slough: National Foundation for Educational Research in England and Wales, 1971), p. 42; Monks, loc. cit.

[12]Schafer and Olexa, op. cit., p. 64.

the ratings were higher for students of the Academic group. There is also the possibility that teachers perceived mainly the non-sports aspect of student participation and, as a result, gave much higher ratings to students of the Academic group. In view of the intricate relationship discovered between ratings of students and actual student participation, both of which indicate a lower degree of social activity among students of the General group, the need for reassessment of at least the extra-curricular activities programs in Newfoundland high schools is obvious.

Null Hypotheses Rejections and Acceptances

As a means of summarizing the essential findings of this study, conclusions concerning the hypotheses put forward are here presented.

Null hypothesis #1. There is no difference between students enrolled in the Academic program and those enrolled in the General program on the variable of attitude toward school as measured by the attitude-toward-school part of the semantic differential.

A comparison of the mean attitude-toward-school scores of the Academic and General groups resulted in the acceptance of the above hypothesis. There was no significant difference between the mean attitude-toward-school scores of the two groups.

Null hypothesis #2. There is no difference between students enrolled in the Academic program and those enrolled in the General program on attitude toward self as measured by the attitude-toward-self part of the semantic differential.

This hypothesis was accepted based on the analysis of variance data concerning attitude toward self. In other words, the Academic and General

groups did not differ significantly in their mean attitude-toward-self scores.

Null Hypothesis #3. There is no difference between the two curricular groups in participation in extra-curricular activities as determined by the relevant questionnaire.

With respect to the total participation (both sports and non-sports activities) scores, hypothesis #3 was accepted. However, when the participation scores were divided into sports and non-sports scores, it was found that students of the Academic group took part in significantly more non-sports activities than did students of the General group. No significant difference was found in the case of sports and related activities.

Null hypothesis #4. There is no difference between the social behavior ratings teachers give students enrolled in the Academic program and the ratings teachers give students enrolled in the General program.

This final hypothesis was categorically rejected. Students of the Academic group received significantly higher mean teacher ratings than did students of the General group.

Relationships Among Variables

In an effort to assimilate the various findings of this study and bring them into perspective, the correlations found among the variables will now be considered. The correlations discovered present a complex series of interrelations among some of the variables studied and offer some striking contrasts between the two curricular groups.

The significant relationship between the attitude-toward-school and attitude-toward-self scores of students in the Academic group seemed

logical enough until the enigmatic and significantly different negative correlation for the General group was encountered. Barring some sampling error, a logical explanation of this is hard to find, unless students in the General group were so detached from school social life that it did not play an important part in the formation of their self-concepts. This idea appears reasonable in view of the observation of Schafer and Olexa that non-college prep students tend to feel left out of most school social life.[13] Additional support is lent to this idea by the finding in this study that students on the General program were less active than students on the Academic program in extra-curricular activities of the non-sports type. Furthermore, whereas the attitude-toward-self scores of the Academic group correlated significantly with both the sports and related activities and total participation scores, such was not the case with the General group. The social involvement of students of the General group showed no significant relationship to the students' expressed attitudes toward themselves. With students of the Academic group, it appears that active social involvement may well have been a significant factor in determining their self-concepts. While the attitude-toward-school scores correlated significantly with participation in non-sports activities for the Academic group, this relationship was not found for the General group.

As might logically be expected, significant correlations were found among most of the different participation scores. The notable exception was found for the General group, within which the correlation between non-sports and sports activities was negative but not significant. A far greater percentage of the students on the General program took part in

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[13] Schafer and Olexa, op. cit., p. 42.

sports-type activities than in non-sports activities. The significant differences between the two curricular groups with regard to the inter-correlations of the three participation scores were probably created by the fact that students of the General group participated less in non-sports activities than did their counterparts in the Academic group. It appears possible that there may have been, in the case of the Academic group, a complex interaction among attitude toward school, participation in extra-curricular activities and teacher ratings of student social behavior. In other words, it seems logical to assume that a student who actively participated in school activities was relatively happy with school and was perceived by his teachers as being well adjusted socially. This possible interaction appears to have been less noticeable among the General group, for which mean teacher ratings of students did not correlate significantly with participation in sports and related activities, but did correlate significantly with the other participation scores. This implies that teachers may have underestimated the degree of participation of the General group in sports-type activities, creating a case in which students failed to live "down" to teacher expectations.

As for the correlations among the ratings of students by different teachers, the high proportion of significant correlations indicated considerable harmony among teachers in rating the social behavior of students.

Other Findings

Further analysis of the results according to the sex of the students provided additional insight into attitude, participation, and social behavior patterns of students in the Academic and General groups.

Males and females of the Academic and General groups all appeared

to have similar attitudes toward school. The same situation was discovered with respect to attitude toward self. In addition, no differences were found between the attitudes of students of the same sex enrolled in different curricular programs.

Significant differences were noted in the case of participation in extra-curricular activities. Females in the total sample and in both curricular groups took part in significantly more non-sports activities than did the male students, while males in the General group and in the total sample participated in more sports and related activities. These findings concerning student social participation could well be related to the suggestions of various authors[14] concerning sex-typing. In other words, females are expected to take part in basically non-aggressive (non-sports) activities, while males are expected to be boisterous and physically aggressive. In this respect, then, it appears that students tend to live up to expectations. These differences between the participation tendencies of males and females were borne out in the ratings of students by teachers, with the females receiving higher ratings.

IMPLICATIONS AND RECOMMENDATIONS

The findings of this study lead into various implications and subsequent recommendations. This section of Chapter 5 will first consider the implications, then the recommendations to school personnel, and finally, recommendations for further study.

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[14] See, for example, P. H. Mussen, J. J. Conger, and J. Kagan, Child Development and Personality (New York: Harper and Row, 1969, pp. 339-341; and L. J. Stone and J. Church, Childhood and Adolescence: A Psychology of the Growing Person (New York: Random House, 1957), pp. 225-226.

Implications

In view of the results obtained from the attitude-toward-school and attitude-toward-self divisions of the semantic differential, indicating no essential differences between the Academic and General groups, it can be said that placement in a particular class appears to have no relation to these attitudes as expressed by the students. Whether the attitudes of students in both groups were "high" or "low" cannot be determined and is of no real concern. Since the basic concern of this study was a comparison of the two groups there appears to be no real cause for alarm with respect to student attitudes toward school and self as these attitudes relate to streaming.

However, when the participation patterns and ratings of the students by teachers are taken into consideration, the adequacy of the General-Academic setup becomes more questionable. Indeed, since students in the General classes took part in significantly fewer non-sports activities and were given significantly lower teacher ratings than students in the Academic group, the possibility that curricular streaming, as practiced in Newfoundland rural high schools, may have undesirable overtones, can be entertained. Why do these differences between the two groups exist? Several authors[15] have suggested a complex interaction among various social forces operating within the school environment. The correlations among the variables considered in this study suggest that this interaction is a distinct possibility.

To sum up the discussion in this section, the findings of this study offer sufficient cause for a careful reassessment of curricular

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[15] See Schafer and Olexa, loc cit.; and Yates, op. cit., p. 82.

streaming in Newfoundland schools, particularly in relation to the extra-curricular participation programs offered by different schools. The case of each individual student should be thoroughly assessed before placement in either stream, especially the Non-Matriculation one, is carried out. The findings of this research resulted in the following recommendations to school personnel.

Recommendations to School Personnel

1. A thorough assessment of curricular streaming, taking into consideration its relation to the academic, social, emotional and other aspects of student adjustment is recommended. Essentially, every effort must be made to determine if the present curricular setup in Newfoundland high schools affords students the opportunity of reaching their optimum potential in various areas of personal development. Indeed, one wonders if curricular differentiation is necessary. Or is it just an efficient organizational procedure, facilitating the instructional routine of teachers? Curricular programs geared to the needs of individual students are necessary. Program placement of students should not be determined largely on the basis of assumed ability. Granted, catering to the needs of individual students would necessitate employing more school personnel, particularly in specialist areas, but this step must be taken.

2. It is recommended that the extra-curricular activities programs in the schools be enriched in order to provide additional opportunities for student involvement. While many high schools in Newfoundland offer a reasonable number and variety of sports activities in which students may participate, the non-sports programs are much less diversified. Thus, it is apparent that students should have a wider selection of non-sports options.

Recommendations for Further Study

1. A study of various aspects of student involvement in school life in Grades 9 to 11, in relation to the streaming process, is strongly recommended. Academic, social, emotional and other aspects of student adjustment must be considered.

2. Follow-up studies of students after they have graduated from high school are recommended in order to compare the relative success of students in the two groups in obtaining employment or in continuing their education.

3. Student aspirations should be studied to see if these aspirations are consistent with the curricular program in which the student is enrolled.

4. Studies of the correlates and comparative effects of streaming versus non-streaming are recommended.

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APPENDIX A

INITIAL LETTER TO SUPERINTENDENTS AND PRINCIPALS

P. O. Box 15
Education Building
Memorial University
St. John's
February 27, 1973

Mr. _____
_____ School Board
_____, Newfoundland

Dear Sir:

I am currently studying for an M.Ed. in Educational Psychology, Guidance and Counseling here at Memorial University. As part of the planning for my research I am asking for your permission to collect some data at _____.

My thesis work will involve a comparison of academic and general students on attitude toward school, attitude toward self, participation in extra-curricular activities and ratings by teachers.

The data will be gathered by means of a questionnaire to be filled out by all Grade 11 students in the school. This questionnaire can be completed in a single class period. Also, teachers will be asked to rate students on certain traits and behaviors. I wish to emphasize that students and teachers participating in the study will remain anonymous and all information gathered will be strictly guarded.

I anticipate coming to _____ to collect my data during the month of April. The exact date will be arranged later.

If you would like further information concerning this, I will gladly supply it.

I look forward to hearing from you. Thank you.

Sincerely,

Calvin Coish

APPENDIX B

FOLLOW-UP LETTER TO PRINCIPALS

P. O. Box 15
Education Building
Memorial University
St. John's
March 26, 1973

Mr. _____
Principal
_____ High School
_____, Newfoundland

Dear Mr. _____:

Further to our earlier correspondence concerning my proposed research at your school, I plan to collect my data at your school on _____. If there is any problem concerning this date, please contact me as soon as possible.

I would greatly appreciate it if you would forward a copy of the enclosure to each Grade 11 teacher in your school.

Thank you for your co-operation.

Sincerely yours,

Calvin Coish

APPENDIX G

LETTER TO TEACHERS

P. O. Box 15
Education Building
Memorial University
St. John's
March 26, 1973

Dear Teacher:

I contacted your principal earlier and received permission to conduct research at your school. I am now asking for your help in conducting that research.

My research involves a comparison of academic and general students on the variables of attitude toward school, attitude toward self, participation in extra-curricular activities and ratings by teachers.

I will be distributing a questionnaire to be filled out by all Grade 11 students in the school. This questionnaire can be completed in a single class period. Also, classroom teachers will be asked to rate students on certain traits and behaviors. Students and teachers taking part in the study will remain anonymous and all information gathered will be strictly guarded.

I will be collecting my data at your school on _____.

Thank you in advance for your co-operation.

Sincerely yours,

Calvin Coish

APPENDIX D

STUDENT QUESTIONNAIRE INSTRUCTIONS

STUDENT QUESTIONNAIRE INSTRUCTIONS

1. Explain that this questionnaire is part of a survey being undertaken by Calvin Coish, a graduate student at Memorial University.

2. Pass out questionnaires. Information will be confidential.

3. Give each student designated number. Remind each student to put number in appropriate space on front page.

4. Get students to fill in information at top of front page.

5. Skim through questionnaire, explaining appropriate parts and words and answering students' questions. It might be necessary to explain terms passive and active, sociable and unsociable.

6. In the last section on extra-curricular activities, students may include any activities they deem appropriate. Not necessary to fill in information at top of second last page as it is already on front page.

7. Make sure each student has filled in appropriate information.

8. Collect questionnaires.

APPENDIX E

SEMANTIC DIFFERENTIAL

SEMANTIC DIFFERENTIAL

INSTRUCTIONS

School: _____ Class: ____ Academic

Student: _____ Number ____ General

_____ Sex

Home Address: _____

Following are some words which can describe how you feel about certain things. At the top of each section you will see the item you have to consider -- YOURSELF or YOUR SCHOOL.

Note that there are two words between which are five blocks. You are to put an X in the block which best describes how you feel. Let us consider the following example to describe your school.

GOOD						BAD

If you feel your school is really good, then place an X in the block nearest GOOD.

GOOD	X					BAD

If you feel your school is really bad, then place an X in the block nearest BAD.

GOOD					X	BAD

If you feel your school is more good than bad, then place an X in the second block from GOOD.

GOOD		X				BAD

If you feel your school is more bad than good, then place an X in the second block from BAD.

GOOD				X		BAD

If you do not know how you feel about your school, then place an X in the center block.

GOOD			X			BAD

YOUR SCHOOL

Put an X in the block which best describes how you feel about your SCHOOL.

COLUMN A	MOSTLY A	MORE A THAN B	DO NOT KNOW	MORE B THAN A	MOSTLY B	COLUMN B
PLEASANT	☐	☐	☐	☐	☐	UNPLEASANT
PASSIVE	☐	☐	☐	☐	☐	ACTIVE
EASY	☐	☐	☐	☐	☐	DIFFICULT
UNFRIENDLY	☐	☐	☐	☐	☐	FRIENDLY
FAIR	☐	☐	☐	☐	☐	UNFAIR
USELESS	☐	☐	☐	☐	☐	USEFUL
GOOD	☐	☐	☐	☐	☐	BAD
AWFUL	☐	☐	☐	☐	☐	NICE
INTERESTING	☐	☐	☐	☐	☐	BORING
UNCOMFORTABLE	☐	☐	☐	☐	☐	COMFORTABLE
RELAXED	☐	☐	☐	☐	☐	TENSE
LARGE	☐	☐	☐	☐	☐	SMALL

YOURSELF

Put an X in the block which best describes how you feel about YOURSELF.

COLUMN A	MOSTLY A	MORE A THAN B	DO NOT KNOW	MORE B THAN A	MOSTLY B	COLUMN B
WEAK						STRONG
SOCIABLE						UNSOCIABLE
CRUEL						KIND
ACTIVE						PASSIVE
SAD						HAPPY
BRAVE						COWARDLY
TENSE						RELAXED
COMFORTABLE						UNCOMFORTABLE
UNIMPORTANT						IMPORTANT
HONEST						DISHONEST
UGLY						BEAUTIFUL
FRIENDLY						UNFRIENDLY
STUPID						SMART

APPENDIX F

PARTICIPATION IN EXTRA-CURRICULAR ACTIVITIES QUESTIONNAIRE

PARTICIPATION IN EXTRA-CURRICULAR

ACTIVITIES QUESTIONNAIRE

School: _____ Class: ___ Academic

Student: _____ Number ___ General

_____ Sex

Home Address: _____

1. Name all the school organizations and clubs of which you are a member.

_____

_____

_____

2. Do you hold an office in any of these? Yes ___ No ___
If yes, name them.

Organization	Office Held
_____	_____
_____	_____
_____	_____

3. Do you take part in school sports, other than during regular gym classes? Yes ___ No ___

If yes, which sports?

_____

_____

4. Do you play on any school sports team? Yes ___ No ___
If yes, which sports?

_____

_____

5. Were you elected this year to represent your class on some committee or project? Yes ____ No ____

   If yes, which one(s)?

   _____

   _____

6. Did you work on this year's school yearbook? Yes ____ No ___
   If yes, what was your work?

   _____

   _____

7. Do you help publish a school newspaper? Yes ____ No ____
   If yes, what is your work?

   _____

   _____

8. Do you attend after school or evening functions sponsored by the school? Yes ____ No ____

   If yes, which social events?

   _____

   _____

9. If you take part in any other school clubs or activities not previously mentioned, please list them here.

Activities	Offices Held (if any)
_____	_____
_____	_____
_____	_____

APPENDIX G

RATING OF STUDENT BY TEACHER

RATING OF STUDENT BY TEACHER

School: _____ Class: ____ Academic

Student: _____ Number ____ General

_____ Sex

Home Address of Student: _____

By comparing this student with others in the class, how would you rate him or her on the following items? Place an X in the appropriate block.

	MOST OF THE TIME	ABOUT 3/4 THE TIME	ABOUT 1/2 THE TIME	ABOUT 1/4 THE TIME	ALMOST NEVER
1. IS A FRIENDLY, OUTGOING PERSON					
2. DOES NOT LISTEN WHILE OTHERS TALK					
3. TAKES PART IN EXTRA-CURRICULAR ACTIVITIES					
4. SHOWS A LACK OF CONFIDENCE					
5. SHARES HIS OR HER INTERESTS WITH THE GROUP					
6. DOES NOT VOLUNTEER FOR SCHOOL PROJECTS					
7. IS POLITE AND CONSIDERATE OF OTHERS					
8. DISLIKES TAKING PART IN STUDENT GATHERINGS					
9. WORKS AS WELL AS HE OR SHE IS ABLE					
10. DOES NOT FIT WELL INTO GROUP ACTIVITIES					